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INDIA RUBBER WORLD

CAOUTCHOUC GUTTA-PERCHA

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TABLE OF CONTENTS.

PAGE.

Editorial:
Where Rubber Figures in the News 1
A Coming Great Use of Rubber Hose 2
Minor Editorial 2

The "Guayule" Rubber Plant—III 3
[With 3 Illustrations.]

New Trade Publications 4

A Glimpse of Rubber Planting in Costa Rica ..... *The Editor* 5
[With 16 Illustrations.]

Interest in "Sapium" Rubber in the Far East 10
[With a report by Mr. Herbert Wright.]

The India-Rubber Trade in Great Britain. *Our Regular Correspondent* 11
[The Waterproof Trade. Mastic Michelin. The Card Clothing Industry. Reclaimed Rubber Patents. Lawn Tennis Balls. Ceylon Rubber Planting. White Lead Legislation. New Rubber Scrap Machine. Future Price of Sulphur.]

Bad Conditions in the Acre Rubber District ..... *Franco Vieira* 13

Rubber Monopoly in Nicaragua 14

The Progress of Rubber Planting 15
[Malacca Rubber Plantations, Limited. Rubber at the Penang Show. Notes on Plantations in Mexico. Rubber Tapping in Nicaragua.]
[With 1 Illustration.]

Recent Rubber Patents 17
[United States. Great Britain. France.]

Vacuum and Compressed Air Cleaning in New York ..... *Frank L. Blanchard* 19
[With 2 Illustrations.]

Obituary—Joseph West Green 21
[With a Portrait.]

New Goods and Specialties in Rubber 22
[Goodrich Surgeons' Syringe Outfit. Dr. Tullar's Vaginal Spray. A New Kelly-Springfield Tire Feature. Trouser Robe for Motorists. An Adjustable Fountain Syringe Shut-off. The "Handy" Tobacco Pouch. Goodrich Three Finger Glove. Foster Crimped Fiber Sole.]
[With 10 Illustrations.]

Rubber Interests in Europe 24

Miscellaneous:
The Ubero Planting Companies 2
India-rubber Goods in Commerce 4
Development of Colombia 9
Colorado Rubber "Hoodooed" 9
The Return of Mr. Flint (*Illustrated*) 23
Trade Clash Over Golf Balls 29
The Textile Goods Market 30

News of the American Rubber Trade 25
[With Portraits of N. E. Alling and F. H. Appleton.]

Review of the Crude Rubber Market 30

WHERE RUBBER FIGURES IN THE NEWS.

THE eager interest with which the planting element in the Far East seizes upon whatever may pertain to rubber is illustrated on another page of this issue, on which we reproduce a report cabled to a leading Ceylon newspaper, summarizing from THE INDIA RUBBER WORLD an account of a new source of Amazon rubber. The Ceylon paper's correspondent felt that the mails were too slow to convey the facts to his home office, and through his use of the cable the editor at Colombo was able, two weeks before the arrival of THE INDIA RUBBER WORLD, to obtain and print some expert information from the local government botanical service and to discuss the whole subject editorially.

It is plain that journalists so experienced as those in charge of *The Times of Ceylon* would hardly resort to such use of the ocean telegraph if not convinced of the acute interest of their reading public in rubber and its production. The planters may have to wait for six or seven years for the first yield of rubber from a given planting, but are unwilling to wait seven days for any facts which may have an important bearing upon the future of the rubber culture.

But the use of the cable to carry rubber news to the Far East is not new; the planters out there—and a lot of others as well—want to know the prices paid at each London rubber auction before the next day, and their evening newspapers supply the information. It has been usual to speak of the people of the Amazon regions as living by rubber, but the European residents of Ceylon and the Straits will soon be in the same position if half their plans and projects as reflected in the daily journals out there should materialize. Already rubber seems to have entered into the life of the people there in as many ways as cotton in the southern United States or coal in Pennsylvania. It occupies the attention of the local governments; it is the subject of scientific investigation; it figures in the transactions of what serve as the local stock exchanges; and what is more, real rubber forms part of the exports and is the basis of income of a lot of people.

His Excellency the governor of the Straits Settlements, in opening the recent big agricultural fair at Penang, at which the interest in plantation rubber exhibits exceeded that in any other feature of the show, spoke at length of the rubber prospects, warning planters not to let the company promoters profit too greatly at their expense. Naturally the formation of large planting companies is being undertaken on all sides, and their shares are quoted in London financial circles along with American railway securities and South African mining stocks, but it would be a mistake to assume that the interest in rubber planting in the British colonies is due, even in large part, to company promoters.

What the Colombo and Singapore and Kuala Lumpur papers put before their readers morning and evening is data contributed by practical planters on the kind of soil best suited for rubber, methods of extracting the latex and coagulating it, and other such like details, all with a view to

the best development of the new interest through a free exchange of views and experiences. Real profits already realized are reported; not estimates of future possibilities. All this is as it should be, and it is the best earnest of a firm foundation for rubber culture as a lasting and profitable business.

There is no other part of the world where rubber figures so largely in the real news of the day—in the printed news, we mean—as in the colonies above named, and doubtless the people there would be surprised to know that there are some folks elsewhere who suppose the result of all rubber planting to date to be summed up in one word—failure.

A COMING GREAT USE OF RUBBER HOSE.

OF the newer applications of India-rubber, one which seems especially practical and destined to come into wide use is in the form of hose for the compressed-air and vacuum systems of house cleaning, in regard to which some details are given elsewhere in this paper. Medical science long has taught the importance of cleanliness as a means to health, but it has remained for twentieth century inventors to show the world what a really clean house is like. And self respecting and intelligent people, once having their eyes opened, will not be content with the old standards of cleanliness.

It is not too much to give the new house cleaning methods a place with the most notable discoveries in the history of sanitation. These words, by the way, are not written in the interest of any one of the several somewhat different house cleaning systems now offered for public support, for THE INDIA RUBBER WORLD is not in a position to institute any comparison among them, but we are willing to be quoted freely in advocacy of the general principles involved.

The reason for introducing the subject here is to note the importance of the new demand for raw rubber which undoubtedly will follow the more general public appreciation of the new era of cleanliness which the pneumatic system is ushering in. Apart from the sanitary aspect—which appeals to all good people—this new use of flexible hose cannot fail to be a matter of great importance to the rubber industry and likewise to the producers of raw rubber.

Mr. Blanchard's contribution to this subject, by the way, relates mainly to the cleaning of private and public buildings—to premises occupied by people as residences or for office and other similar purposes. But an English inventor has opened a new line of development which widens the field enormously. His suggestion relates to ridding coal mines of the dust which is now a fruitful cause of explosions, to say nothing of the injurious effect upon the health of the miners. If this pneumatic cleaning proves practical in collieries, there is scarcely a form of industry to which the same principle may not be applied ultimately, with the result of making the work more healthful in general, even if it does not always, as in the case of coal mining, remove a distinct menace to life.

We shall expect to see a great increase in the use of rubber hose, due to the new era of cleanliness.

THE CONTINUED HIGH PRICE OF RUBBER is convincing evidence of the active demand for rubber goods.

IF THE HORSE SHOULD BE ANNIHILATED by the automobile, may we expect to see the race tracks given over to the rubber tired red devils and blue devils and yellow devils, with crowds betting on contests of speed?

ALASKA APPEARS DESTINED to become of great importance to American commerce. It is only a straw which points the direction of the wind, but it may be worth mentioning that the shipment of American rubber footwear to that territory during the last fiscal year amounted in value to $166,644, or more than 23 per cent. on the $7,200,000 which the United States paid to Russia for Alaska.

THE RUBBER KINGS OF THE AMAZON doubtless feel little respect for the trivial shipments of real Pará rubber from the other side of the globe. One steamer from the Amazon carries more rubber than has been shipped from all the plantations in the East within a year. But the output over there is growing in extent rapidly, while in Brazil it is at a standstill. And the difference between the production of the two centers will not long remain so marked as now.

THE UNPRECEDENTED CROPS THIS YEAR emphasize the great part which agriculture plays in the prosperity of the United States, and every increase in the power of our people to spend money helps trade in all the rest of the world. So far as the rubber industry is concerned, the home demand for its products is likely to prevent any great increase for awhile in the export of American rubber goods. In fact, while the rubber mills here are crowded with work, the imports of rubber goods into the United States are larger now than ever before.

THE WEALTH OF RUBBER IN THE ACRE DISTRICT probably has never been exaggerated, but the establishment of peace there—as between Brazil and Bolivia—has not been followed by the hoped for settlement of the territory and the opening of new rubber camps. Even Brazilians will be found to complain, as will be seen on another page of this paper, of the governmental policy which is blind to every consideration but the personal advantage of the office holders. What is needed for the development of the Acre and its rubber resources is a more liberal policy toward the foreigner with capital to invest there, as well as toward the native Brazilian, whether capitalist or laborer.

THE UBERO PLANTING COMPANIES.

THE receivers for the Ubero Plantation Co. of Boston appeared before the United States circuit court in Boston on September 20, with a petition to be allowed to sell the assets in their charge and divide the proceeds among the investors. Counsel representing a reorganization committee desired to file a petition for the discharge of the receivers and for the property of the company to be turned over to a new corporation to be formed under the reorganization plans. [See THE INDIA RUBBER WORLD, September 1, 1905—page 402]. It was stated that a substantial amount had been subscribed by the investors for the reorganization, but this plan was opposed by counsel who appeared for another group of investors. The court deferred action to give the receivers an opportunity to communicate with all the shareholders to ascertain their wishes in regard to a reorganization.

THE "GUAYULE" RUBBER PLANT—III.

THE *Mexican Herald* said, in its issue of September 12, in regard to a company of which the headquarters is in New York:

"With nearly a million feet of lumber already ordered, besides tons upon tons of rubber extracting machinery, the Continental Rubber Co., of which E. B. Aldrich is president, is preparing to build at Torreon a rubber factory which shall be the largest ever constructed in Mexico Guayule will be the product from which the rubber will be taken and news received here is to the effect that Mr. Aldrich, who is the son of Senator Aldrich of Rhode Island, is backed by his company with more than enough money to build the plant as well as a number of smaller frame houses which are destined for the use of the workmen at the factory.

"One hundred acres is embraced in the site for the plant, which will be located near the junctions of the Mexican Central, the International, and the Coahuila and Pacific railways. This land lies just north of the Torreon smelter and is admirably adapted to the purpose for which it was purchased. Captain F. H. Hunicke is credited with having been the father of the enterprise, inasmuch as he demonstrated that rubber is extractible from the Guayule plant with the right kind of machinery. This is the class of machinery which will be used by the Continental Rubber Co. and Captain Hunicke has been retained to install the machinery and get it into smooth running order. The supply of Guayule will be drawn from the territory between Monterey and Torreon where the shrub abounds in large quantities."

* * *

THE Continental Rubber Co. is incorporated under the laws of New Jersey with $1,000,000 capital, to exploit, in connection with Guayule rubber, certain American and foreign patents granted to William A. Lawrence. The president is Edward B. Aldrich and the vice president Mr. Lawrence. They fill the same offices in Continental-Mexican Rubber Co., a subsidiary company organized for carrying on the business in Mexico. The New York headquarters is at No. 32 Broadway. It is understood that this is one of the two largest companies now handling Guayule to an important extent commercially. A list of the United States patents granted to William A. Lawrence and assigned to the Continental Rubber Co. follows:

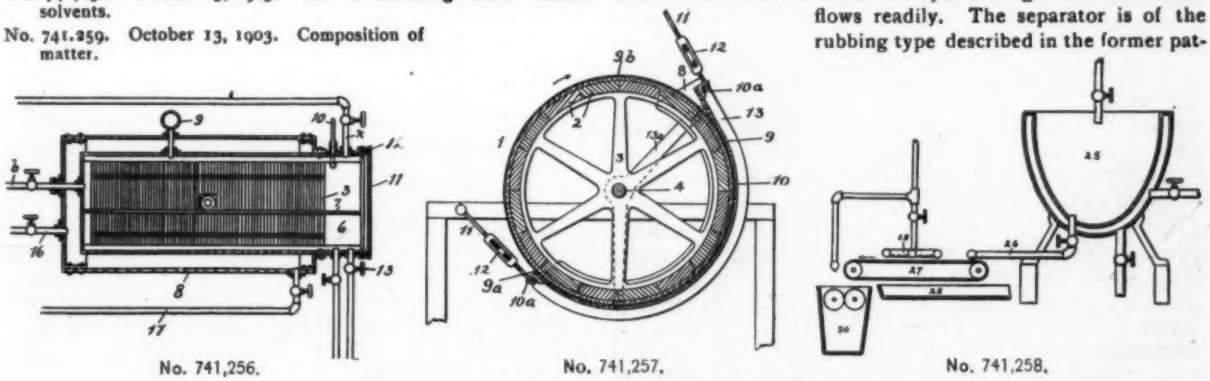
No. 741,256.	October 13, 1903.	Art of extracting gum.
No. 741,257.	October 13, 1903.	Apparatus for extracting gum.
No. 741,258.	October 13, 1903.	Art of extracting rubber without solvents.
No. 741,259.	October 13, 1903.	Composition of matter.
No. 741,260.	October 13, 1903.	Process of refining crude rubber.
No. 787,518.	April 18, 1905.	Cleaning rubber.

Patent No. 741,256 is for the continuous process in the treatment of the plant with the solvent for the rubber like gum contained in it. In the first place, the shrub is run through corrugated rollers to get it in shape for the solvent, which is naphtha. Other hydrocarbon solvents of rubber, together with ether, chloroform, etc., may be used, but the inventor gives personal preference to low grade naphtha of about 74° Baumé. The inventor evaporates and recovers the naphtha after the gum is in solution until evaporation becomes somewhat difficult. At this point he introduces a hot alkaline solution at a temperature very near its boiling point. This is to dissolve the resin and to separate the gum from the residue of the solvent. The result is that the gum rises to the surface in a mass about the consistency of cream. The alkali is then washed out with cold water and the gum hardens into a doughy mass.

The apparatus designed to carry out this process consists of a basket with steel ribs, lined with wire cloth, having a fine mesh. This basket, having been filled with crushed shrubs, is put into a jacketed extracting drum. The door is closed and the naphtha at once pumped in. It is left there for four hours, being heated to 110° to 114° F. The solution is then drawn off into the evaporator which takes out most of the naphtha. The hot residue still in solution is then passed into a tank containing a hot alkaline solution. This is either an open or a closed steam jacketed tank and contains for example 12 per cent. solution of sodium hydrate. The liquid in the tank is kept at a boiling point with occasional stirring for about two hours; the gum is then drawn or skimmed off and subjected to repeated washing of first hot and then cold water in another tank.

Patent No. 741,257 calls for a drum which rotates continuously in one direction, with a rubbing action upon the material to be treated, which is fed between the drum and the closely encircling apron or belt.

Patent No. 741,258 covers the art of extracting rubber without the use of solvents. In this the shrubs are first crushed very finely, the cellular tissue being softened by water, either hot or cold. The rubbing apparatus is then applied which thoroughly rubs the material treated forming the gum into masses, which may be washed in the usual way. The apparatus described consists of a boiling tank provided with steam heated coil. From this the mixture flows out and is received upon an endless belted strainer and conveyer through which the water flows readily. The separator is of the rubbing type described in the former pat-



No. 741,256. No. 741,257. No. 741,258.

W. A. LAWRENCE'S PROCESSES FOR GUAYULE.

ent. The final process is the dissolving of the resin from the extracted gum by means of an alkaline solution or wood alcohol.

Patent No. 741,260 is for a process of refining such crude rubber. This apparatus consists of a macerator jacketed for steam or hot water connected with an evaporator and also a refrigerator. This is fitted with corrugated sleeved rollers for stirring the gum under treatment, and is constructed for a charge of about 400 pounds of crude gum. Into this wood alcohol is poured. The agitator is then put in motion, steam admitted to the jacket, and the macerator brought to a temperature of 122° F. The vapor from this is conducted to the refrigerator for recovery. In 20 minutes the saturated alcohol is also drawn off from the evaporator into the refrigerator and recovered, the rubber almost pure being left in the macerator.

The inventor in speaking of the extraction of resins from gum taken from the Guayule says that there is 63 per cent. of rubber in the gum that he extracts, and 22 per cent. of resinous matter, and that this treatment with alcohol or a mixture of alcohol and naphtha is designed to extract this resin, the resultant mass being a pure rubber like gum.

* * *

COAHUILA Mining and Smelting Co., Limited, have engaged in the production of rubber from Guayule. They have a smelter, at Viesca, state of Coahuila, Mexico, which has been shut down under contract with the American Smelting and Refining Co., and in this they have installed a plant with a capacity for producing daily one ton of Guayule rubber, and there is sufficient power plant to increase this capacity to 4 tons of rubber per day, which production they hope to reach by next May. The company have obtained from the state of Coahuila a concession which exempts them from state taxes and carries other privileges. They have contracted for a supply of Guayule shrub for four years and disposed of their product at the present capacity for two years, through German and American houses. The rubber factory is only one department of the company's business, which is engaged in mining in Coahuila and three other Mexican states. The officers of the company are H. T. Ambrose (New York), president of the American Book Co., president; F. J. Llewellyn of the American Bridge Co., vice president; Walter E. Parker, general manager; and Albert S. Valdespino, superintendent in charge of the rubber department.

* * *

INTERNATIONAL Guayule Rubber Co., September 7, 1905, under New York laws; capital $50,000. Incorporators: Thomas M. Righter, Mt. Carmel, Pennsylvania; John A. Rielly, Shenendoah, Pa., B. St. John Hoyt, No. 170 West Seventy-fifth street, New York. It is understood that the company control some Mexican patents for the extraction of rubber from the Guayule plant.

NEW TRADE PUBLICATIONS.

THE PEERLESS MANUFACTURING CO. (New York) issue their Catalogue No. 70, devoted to Mechanical Rubber Goods. This catalogue is even more complete and more attractively got up than any of its predecessors, some of which have been commented upon very favorably in these pages. A Peerless catalogue may be depended upon to contain something new in each edition, and the one before us does not prove an exception to the rule. [5⅞″ × 8¾″. 137 pages.]

THE GUTTA-PERCHA AND RUBBER MANUFACTURING CO. OF TORONTO, LIMITED, issue a catalogue of their "Maltese Cross" Interlocking Rubber Tiling, illustrating a wide variety of applications of this desirable floor covering, including views of a number of interior views of Queen's Hotel, Toronto, lately equipped with it. These are followed by a number of designs in color, indicating that a variety in color schemes is now available in rubber which no manufacturer would have thought possible at a period in the industry within the memory of most important houses in the trade. [6″ × 9″. 40 pages.]

THE HARTFORD RUBBER WORKS CO. (Hartford, Connecticut) issue a new brochure on the distinctive features of the "Hartford Perfected" Dunlop automobile tire. It is adequately illustrated and prices are given. There is also matter of interest on the care of tires. [7½″ × 5″. 24 pages.]

G. & J. TIRE CO. (Indianapolis, Indiana) issue, under the title "Reliable Tires," a number of letters of commendation, by widely known automobilists from many parts of the country. [7¾″ × 10″. 17 leaves.]

THE PURE GUM SPECIALTY CO. (Barberton, Ohio), in their Catalogue C, illustrate and give prices of syringes, water bottles, finger cots, gloves, ice bags, air beds and cushions, nipples, bath brushes, face masks, and other like articles. It is an interesting and handsome catalogue. [9″ × 6″. 32 pages.]

KOHMESCHER & CO. (Cincinnati, Ohio) issue the ninth edition of their catalogue of Fine Rubber Goods for the Druggists', Surgical, and Stationery Trade. As we have noted in connection with former editions of this very complete catalogue, it is always up to date, enumerating a number of articles not listed in it hitherto. The catalogue is excellently illustrated, rendering it a convenient guide to buyers who may be at a distance from any rubber store. [5″ × 7¾″. 160 pages.]

J. LONSTROFF, proprietor of the Fabrique Genevoise de Caoutchouc (Geneva, Switzerland), issues a series of trade lists, headed with his *Prix Courant* No. 1, devoted to hygienic, surgical, and toilet articles, of about which 900 are noted, most of them being illustrated. The same factory produces mechanical goods, footwear, sporting goods, toys, balloons, dress shields, tobacco pouches, and waterproof clothing, which are described in separate lists. [6⅛″ × 9⅝″. 86 pages.]

ALSO RECEIVED.

HODGMAN Rubber Co., New York.=[Duplex Folding Bath Tubs.] 4 pages.

James Barker, Iron Foundry and Machine Works, Philadelphia= Barker Massage Machine. 20 pages.

The Parker Pen Co, Janesville, Wisconsin=The George S. Parker Fountain Pen. 16 pages.

Crandall Packing Co., Palmyra, New York.=Catalogue and Price List. Steam, Ammonia, and Hydraulic Packings [and Belting, Hose, and other Rubber Goods]. 72 pages.

The Trent Tile Co., Trenton, New Jersey=Rublain Flooring. 4 pages.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of July, 1905, and for the first seven months of five calendar years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July, 1905.....	$102,839	$242,263	$ 235,607	$ 580,709
January–June.....	534,263	346,046	1,435,469	2,315,778
Total.....	$637,102	$588,309	$1,671,076	$2,896,487
Total, 1904.. .	504,666	472,128	1,382,582	2,359,376
Total, 1903.....	474,684	341,792	1,459,954	2,276,430
Total, 1902	386.105	355,092	1,116,548	1,857.755
Total, 1901.....	381.640	201.356	1.073,822	1.716.827

A GLIMPSE OF RUBBER PLANTING IN COSTA RICA.

By the Editor of "The India Rubber World."

OUR first sight of Costa Rica came at 5 o'clock one morning, when we sighted the low lying city of Port Limon with its background of far away mountains. It was nearly 8 o'clock before we made fast to the pier, and even then it took us some time to have our luggage weighed and the customs paid. The time came finally, however, when we were free to walk down the long pier, through the gates, and explore the town.

Not only is Costa Rica justly called the Banana republic, but Port Limon is a banana town and we fully appreciated it when we saw the train loads of green fruit run out upon the piers, the huge bunches dumped upon rubber conveying belts and carried smoothly into the holds of the waiting steamships. The town, moreover, had an alert air about it that was in no way suggestive of typical Spanish America. It had no very pretentious buildings, with the exception, perhaps, of the office building of the United Fruit Co., but it boasted two hotels and the "Gem saloon," where all the men congregated, and beside that, almost everybody spoke English.

At 10 o'clock in the morning the thermometer stood at 90°, the air reeking with moisture, the sky covered with evil looking clouds. Nevertheless, the streets were thronged with a most vivacious mixture of porters, fruit sellers, soldiers, Jamaica negroes, Chinese, and native Costa Ricans. At 10.30 we boarded the train that was to take us to the interior and rode for 20 miles through a flat, swampy country where even the native Costa Rican cannot live, but where the Jamaica negro flourishes and waxes fat. At intervals along the railway were little huddles of huts built on stilts to keep them out of the black mud, roofed with corrugated iron or palms, and full to overflowing with the ebony subjects of his Majesty King Edward VII.

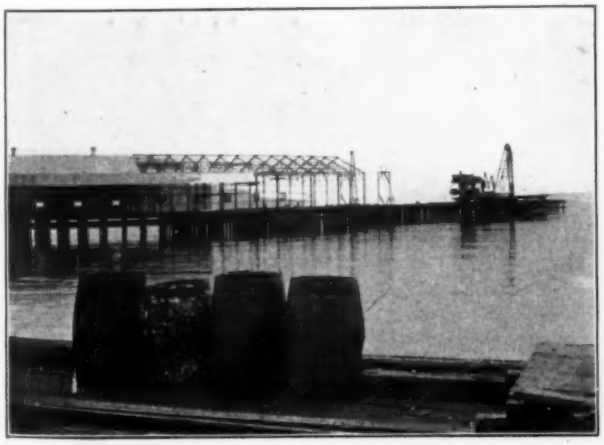
The heads of the families that called these shanties homes were very largely laborers on the banana plantations of the United Fruit Co., and when it is remembered that out of Port Limon will come this year some 7,000,000 bunches, it is easy to appreciate how large a force of men is needed to cultivate, cut, and ship this great crop. It is claimed that there are 11,000 Jamaica negroes on the plantations near Port Limon. For them the United Fruit Co. provides hospitals, keeping out 2 per cent. of their wages for medical attendance; and yet, in spite of black fever, yellow fever mosquitoes, and snakes, there is not a great amount of sickness among these laborers. And if one can judge by the appearance of the people, their home life in their little tin roofed shacks, crowded with pickaninnies, mangy dogs, monkeys, and parrots, shows a greater measure of content than is to be found in the majority of settlements more favorably located, and populated by those who have a thousand fold more to make existence tolerable.

As the train emerged from the palmetto swamps it ran through some magnificent banana plantations, the trees growing rankly from rich alluvial soil, and the bunches of fruit being often five or six feet long and weighing over 100 pounds each. The railroad, by the way, over which we were traveling, was built through the enterprise of that well known American, Mr. Miner C. Keith, who was also the creator of the great United Fruit Co.

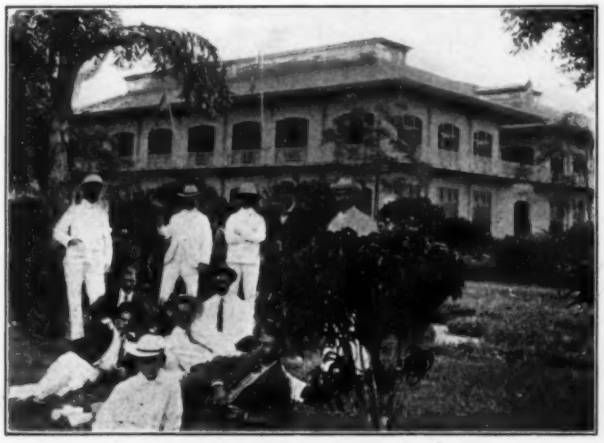
After a time the road began to ascend and the scenery became more and more beautiful. Nearly the whole of the distance up to the city of San José the way lay along the side of a range of mountains and ran parallel with a rapidly rushing river, whose white water could be seen oftentimes for miles. As we got up into the higher country, the home life of the Costa Rican began to be apparent.

Everywhere through the broad valleys and up the mountain sides could be seen cleared farms, in many cases fine plantation houses and great coffee estates. The native Costa Rican is perhaps one of the most enterprising and independent of all the Latin Americans. Nearly every man owns a patch of land and cultivates it. The better class speak English and are very friendly to Americans, welcoming them to their country with a manly, prideful air that is extremely taking.

In the meantime, the Ferrocarril Costa Rica was slowly but surely getting us up toward San José. The English locomotive was having a tough time of it with the steep grades, and it seemed every now and then as if the pull would be too much and the heavy train slip back down into the valley. The slow progress, however, gave us every opportunity to examine the track with its iron sleepers, to see where various great land-



WHARF AT PORT LIMON, COSTA RICA.



UNITED FRUIT CO.'S COMMISSARY, PORT LIMON.

LOADING BANANAS ON A TRAIN.

TEN MILES OUT OF PORT LIMON.

slides had time after time wiped out the railroad and even dammed the swift flowing river, and to enjoy the wonderful semi tropical luxuriance of the giant trees festooned with vines and studded with epiphytes, to look down into deep gorges, up the sides of steep mountains, and across broad and fertile valleys, so photographing the scenery in one's mind that the snail's pace of the train was not only not objected to, but was most welcome. At intervals all the way up were to be seen *Castilloa* trees, many of which had been tapped in the brutal native fashion which amounts almost to girdling. At about 1500 feet altitude the rubber trees began to appear less frequently, and when the aneroid read 2000 feet, they disappeared entirely.

After reaching an elevation of some 5000 feet, we descended a thousand feet and finally reached the city of San José. The city is situated in the midst of a broad and fertile valley and is semi tropical rather than tropical, being surrounded by huge fields of sugar cane, corn, and growing most of the well known tropical fruits. San José itself is a surprise. With its well-kept streets, its trolley lines, electric lights, fine stores, and alert looking inhabitants, it is more like a modern American city than anything else. Although it contains but 24,000 inhabitants, it gives one the impression of a city of double that size, partly, perhaps, because the buildings are nearly all two stories only, as the frequent earthquakes do not invite the erection of skyscrapers. The single unpleasant feature of the city is the open sewage, which is said to invite typhoid. Aside from that there is practically no disease, the climate is equable and the people, except on rare occasions when they take too much *aguardiente*, give the military police little trouble.

Almost from the first of our landing in this country we heard of the magnificent National Theater that San José possessed. The Latin American description of it made it more elegant and on a larger scale than anything in New York or London. For this reason, the first view of it was a bit of a disappointment. It certainly was beautiful architecturally and its decorations were most elaborate, but it is a question if it would hold more than a thousand with comfort. Most of the decorative work was done by artists who were brought from Italy, and some $600,000 gold was spent upon the building. In the foyer on the beautiful inlaid floor were some of the most gorgeous rubber mats that I have ever seen, in red, white, and blue, with green leaves, yellow trumpets, golden harps, etc., and they bore the imprint of the well known firm of Pirelli & Co., Milan, Italy.

The city has large wholesale houses, chiefly in the hands of the Germans, and substantial banks, the country being on a gold basis, with the *colon* as a unit of value, worth 46 cents in American money. The population of the country is 340,000, none of whom are Indians. Spanish is the language in general use, but almost everybody understands English, and it is a delight to mingle with the people, for they have none of the

CHIRRIPO, SHOWING MINOR C. KEITH'S PLACE.

RIVER SCENE NEAR PORT LIMON.

sullen air so prevalent in certain parts of Spanish America.

During our stay in the country we put up at the Hotel Imperial, where we had comfortable rooms and enjoyed an excellent table. As a matter of course, we asked many questions about rubber culture, but from the natives or the resident Americans we developed little information. One of the latter explained it by saying that in that country at the present time bananas were the whole game, because they gave quicker results and had behind them the support of the United Fruit Co., who were perfectly willing that the planters should make a good thing out of their fruit. One native explained the lack of interest in rubber planting by telling us solemnly that rubber seeds planted by man would not develop into productive trees. He said that nature's way of distributing the seeds was for the birds to eat them in order to get the sweet pulp with which they are surrounded, and mingled with their droppings, the seed grew into a tree that was a rubber producer. If it did not go through this preparatory process, it amounted to nothing.

Although we had not come to Costa Rica particularly to look up rubber, there was one plantation that I was anxious to examine, which was said to contain over 100,000 *Castilloas*, most of which had been interplanted with bananas. These trees were said to be three or four years old, and planted by one who had had much experience in tropical forestry throughout Central America. The Importer was so much pleased with the city of San José and so relieved to get out of the heat of the lowlands that he decided to stay there, while the Manufacturer and the writer took another plunge into the hot country. We, therefore, left him for a further exploration of the city, and getting up at daybreak, boarded the train and retraced our steps, slid slowly downward for hours, until we reached the lower levels. The journey downward was even slower than the climb, as the engineer must be on the lookout constantly for falling rocks and for landslides, and I fancy he is also particularly careful not to let the train get away from him, which, with the number of cars and the heavy freight carried, would seem to be a not unlikely happening. We therefore enjoyed afresh the magnificent scenery, and, before we got down to the tropics, the lovely, springlike weather.

MOUNTAIN ROAD NEAR SAN JOSE.

TYPICAL COSTA RICAN LAND CLEARED FOR PASTURE, WITH "CASTILLOA" LEFT STANDING (ON THE LEFT).

SCENE IN STREET IN SAN JOSE.

Reaching the plantation we were warmly welcomed by the planter in charge, who got us horses and took us over the planting. It was the dry season and there had been no rain at all for five days, but the ground was exceedingly soggy and wet, and while the bananas were apparently very thrifty, the rubber did not look as well as it should. The leaves, to be sure, were shedding, which made the trees look their worst, but the few trees that we tapped gave out an exceedingly thin milk, more like skimmed milk than cream containing for a guess, not over 20 per cent of rubber. It is possible, of course, that at the end of the dry season this might thicken up appreciably and be worth extracting, but unless that happened, they would hardly pay to tap.

In this connection a chat that I had with Mr. John M. Keith, the former planting expert of the United Fruit Co., is apropos. He said frankly that in that part of Costa Rica he did not think there was much land that was available for *Castilloa* growing; that it was too wet; that he had had discovered that wild *Castilloas* that grew in wet places gave so thin a latex that the rubber was not worth gathering. My friend the planter had, while I was in New York, told me of another type of planting that he had done by clearing wide pathways through the forest and planting *Castilloas* so thickly that they took entire possession of the ground. With some little trouble we finally located two of these plantings, and they settled in my mind forever the practicability of this sort of cultivation. The *Castilloas* had grown like weeds, but they looked more like fishpoles than rubber trees. By cutting out some of them and

CENTRAL PARK, SAN JOSE.

RAILROAD ON THE WAY UP TO SAN JOSE.

giving the sun a chance, no doubt something could be done, but unless some such measures were instituted, it would be years before the tree trunks would have bark surface enough to do anything at all.

That the trouble with the first planting was not due to the presence of the bananas was proved by a look we had at a small plantation run by a German, where the ground was much better drained and where the trees looked stocky and thrifty. We were also told that on the Northern railway on some of the uplands, the planters were putting *Castilloa* in land that had formerly been used for bananas and were getting excellent results.

NATIVE RUBBER 10 YEARS OLD SURROUNDED BY PLANTED RUBBER AND CHOCOLATE.

All of this leads up to what I think I have before written, that a deep, open soil, particularly one that cakes at the surface a little and in which there is no chance for standing water, or nothing more than a very brief inundation, is what the *Castilloa* calls for.

The interest in the planting of India-rubber in Costa Rica dates back some twelve or fifteen years. As early as 1892 it was reported that the wild trees near the cities and along the coast had been practically exhausted, and that what rubber was gathered came from the more remote mountain valleys. In that year the amount of rubber that came out of the country was a trifle over $6000 worth, less than half the amount shipped the preceding year. It was about this time that the government began to take an interest in the cultivation of rubber and passed laws against tapping the wild trees, and also offered prizes—one for $8000 and another for $5000—for the best plantations of *Castilloa* rubber. Both of these prizes were taken in 1894 by Minor C. Keith, who installed two plantations near Port Limon, the trees, some 25,000 in number being planted with bananas about 150 rubber to the acre. At the time the prizes were awarded the trees were said to be eight or nine years old. When the writer visited Costa Rica no record of them could be found, although had they been cared

TYPICAL LOWLAND TOWN.

RUBBER AND BANANAS.

RUBBER AND COCAO ALTERNATING, SHOWING METHOD OF CLEANING.

for, or even allowed to grow, they should have been somewhere about 20 years old and certainly big enough to tap. The gossips of the country appear to believe that so much quicker profit came to the planter through bananas that the rubber plantations were sacrificed to that industry.

From 1900 onward quite a number of companies were incorporated for the planting of *Castilloa*. A planter named Ed. Coles furnished in 1902 a list of eleven planters who had put in rubber, all the way from 10 to 100 acres. Some of these plantations, if they had been continued, would have trees that should be at the present time producers of rubber. The questioning of either natives or foreigners on the ground elicited very little information; about all they seemed to know or care about was bananas. From an American planter, however, we learned that Messrs. Hoffenstadt and Gillett, of Banco de la China, have a plantation where they lately tapped 600 *Castilloas* which were 6 or 7 seven years old, getting a pound of rubber from each tree.

The correspondent also mentioned an American family named Hogan who were planting rubber at the mouth of the Tres Amigos river, which was the beginning of the Costa Rica Development Co., with headquarters at Los Angeles, California. The officers of this company made arrangements for us to visit their plantation but that meant a call at Greytown, Nicaragua, to reach the Tres Amigos river, and we found that to be impossible. This company have 25,000 trees, a little over three years old, and about 15,000 two years old, which from the photographs that we secured appear to be in a most excellent condition.

In this connection it is interesting to note the activity of Mr. Th. F. Koschney, an old time settler on the San Carlos river, and one who has studied the *Castilloa* carefully. While not a botanist in the strictest sense of the term, his description of the varieties of the *Castilloa* are of distinct value. He divides the *Castilloa* of Costa Rica into four species, the white, the black, the red, and the "tunu," the first three being all varieties of the *Castilloa elastica*. Botanists so far have not followed his discrimination carefully, and it is a question if rubber planters have made any distinction, nor has it been proved necessary. Of course, it would not pay planters to raise "tunu" gum instead of Panama rubber, but so far as we know no such planting has ever been done in Costa Rica or, indeed, anywhere where the *Castilloa* has been put in.

COCAO PODS AND SCRAP RUBBER FROM WILD TREES.

DEVELOPMENT OF COLOMBIA.

THE United States consular agent at Quibbo, Colombia, reports that President Reyes of that republic is undertaking to promote the development of the immense region in southern Colombia bordered by the Amazon and Orinoco rivers, and which for the most part has been neglected in the past. Not even such exports of rubber as are made by the semi civilized Indians in that region contribute to the national revenues, as they have always gone through the hands of traders of Venezuela or Brazil, being taxed as products of the latter countries. The Pará rubber tree (*Hevea Brasiliensis*) is asserted to abound in the forest of part of this region, in addition to other rubber producing species. The government of Colombia has entered into a contract with Dr. Luis Cuervo Marquez, formerly attached to the Colombian legation in Washington, and a partner, by which an exclusive concession of a very large area is granted for 25 years, in consideration of agricultural colonies being formed and small steamers placed on certain rivers, and an export tax of $1 (gold) per 100 pounds paid upon all exports of rubber. The contract provides that certain large areas will be given in perpetual ownership if planted or cultivated during the 25 years' limit above mentioned. The contract is for all kinds of development in the region covered.

A correspondent of THE INDIA RUBBER WORLD mentions that the two concessionaires referred to above are among the most prominent citizens of Colombia. Dr. Cuervo Marquez was sometime governor of the department of Santander, has been *charge d'affaires* at Washington, is now a member of the national assembly, and is in the drug business in a large way in Bogota. His partner in the concession is Dr. Indalecio Camacho, educated in Europe and the United States, and famed in South America as an oculist and aurist. He is the owner of large planting estates and mining interests. The standing of these gentlemen leads to the belief that their concession will be developed on an important scale. Our correspondent adds that President Reyes's term of office will not expire for several years, and that during his administration a condition of tranquility and progress may be expected to be established which will continue under his successors. This opinion, by the way, is now held by many others.

COLORADO RUBBER "HOODOOED."

EVERYTHING, material and mental, political and religious, new inventions are met by the masses at their birth with a frown and a suspicion, and are fought from start to finish. Everything is compelled to grow and fructuate on its merits. So, with the Colorado rubber plant. It has been "hoodooed" by the claim of certain rubber companies to patents, that cover the product. This has hindered and obstructed its progress. It has been a scarecrow that has caused capitalists to wait and hesitate.—*Salida (Colorado) Mail, August 18.*

INTEREST IN "SAPIUM" RUBBER IN THE FAR EAST.

THE able Colombo journal, *The Times of Ceylon*, on August 12, printed a cablegram from its London office, referring to a report in the current issue of THE INDIA RUBBER WORLD (which had just then reached the correspondent), in regard to a new source of Amazon rubber, identified by the authorities quoted as *Sapium aucuparium*. The report mentioned the practice which has grown up in the Amazon region of mixing the latex of this tree with that of the *Hevea* species (the Pará rubber tree proper), giving rise to questions of what might result from a similar admixture of rubber latices in Ceylon, for example. In addition to printing the London cablegram, *The Times of Ceylon* obtained a statement in regard to *Sapium* species from Mr. Herbert Wright, of the Ceylon botanic gardens, which is printed, together with an editorial comment on the whole subject.

Below are reproduced the cabled report and Mr. Herbert Wright's comments:

I.

[*From* THE TIMES OF CEYLON, *August 12.*]

RUBBER FROM PARA.

MIXED WITH ANOTHER LATEX YIELDING TREE.—FORTY PER CENT. OF "SAPIUM."—A SUGGESTION FOR CEYLON.

[COPYRIGHT—BY SUBMARINE TELEGRAPH.]

Times of Ceylon Office, 27, Mincing Lane, LONDON, August 12, 8 20 A. M.

THE American consul in Pará, in a report published in THE INDIA RUBBER WORLD, states that the great bulk of Pará rubber is not pure, but mixed with the latex of *Sapium aucuparium*, up to probably 40 per cent.

Sapium aucuparium is a hardy and rapid growing tree. The seeds are small, and although it would hardly be believed, it yields from 7 to 8 pounds yearly, but requires careful tapping.

The report expresses the opinion that it would be practicable to grow *Sapium aucuparium* in Ceylon if it was thought desirable.

II.

[*From* THE TIMES OF CEYLON, *August 16.*]

"SAPIUM AUCUPARIUM" AND PARA RUBBER.

WILD AND CULTIVATED "SAPIUM" SPECIES IN CEYLON. —"SAPIUM AUCUPARIUM" AT PERADENIYA.

[WRITTEN FOR "THE TIMES OF CEYLON."]

YOUR letter *re* mixing Pará rubber latex with the milk from *Sapium aucuparium* to hand. I regret being unable to give you full information about the *Sapium* species and their possibilities in Ceylon, as I am replying to your queries while on inspection duty.

GROWN HERE AND HOW IT MAY BE IDENTIFIED.—The real *Sapium aucuparium* (Jacquin) is native to tropical America and has, under the name of *Sapium biglandulosum* (Mueller Arg.), been grown at Peradeniya for many years. It grows to a fairly large tree—40 feet high—and seeds freely. This species can be easily identified by the pair af opposite glands which occur at the base of the leaf blade. I enclose a specimen leaf showing these glands.

TAPPING EXPERIMENTS AT PERADENIYA.—The stem, branches, and fruit contain, at Paradeniya, large quantities of white latex, but my tapping experiments in 1902 gave unsatisfactory results, the latex from this species drying to a brittle resinous substance.

There will be no difficulty in supplying rubber planters with seeds or cuttings from the large trees at Paradeniya, but it will perhaps be better to wait and see what product we obtain by mixing the latex of this species with that of Pará rubber. This experiment is now in hand.

It should be mentioned here that *Sapium Laurocerasum*, (Desfontaines) is sometimes called *Sapium aucuparium* (Willdenow). This is not the real *Sapium aucuparium*, however, though the stem contains milk from which a poisonous birdlime is obtained.

"SAPIUM" SPECIES IN KALUTARA, GALLE, ETC.—Species of *Sapium* can be found growing wild in Ceylon and India and also in Africa, and far off China and Japan. One species in Ceylon, called by the Sinhalese "kiri-makula," and known botanically as *Sapium indicum* (Willdenow), is noted for the poisonous milky juice which it yields on tapping. It is an evergreen tree, its growth is rather slow, and it rarely exceeds 25 feet in height. We have no record of the weight of latex obtainable from it, and I should imagine the latter to be poor. This species is common in the moist low country, has been recorded from Kalutara and Galle, and may be recognized by its willow like leaves, greenish yellow flowers, and abundance of milk in young branches and fruits.

Another species known to some botanists as *Sapium ingigne* (Royle), to the Tamils as "tilai," and Sinhalese as "tel-kadura," is to be found in the Trincomalie and Jaffna districts. This tree grows to a moderate size, has green flowers, and becomes leafless once a year. The stem contains a white milky substance, but not in large quantities.

Many years ago, about 1820, if my memory serves me well, *Sapium sebiferum* (Roxburgh), commonly known as the "tallow tree" in China, was introduced to Peradeniya and Hakgala. The seeds are coated with "tallow" which is, according to Dr. Watt, used in place of animal tallow in China for the manufacture of candles, in soap making, etc.

MIXING NOT RECOMMENDED.—Though we do not know the possible yield or the quality of the latex from any of these species, I am inclined to doubt whether it would be any good attempting to mix the latex from species of *Sapium* with that from the introduced Pará, Ceará, or *Castilloa* rubbers, now flourishing in Ceylon. Where the *Sapium* and *Hevea* species are growing wild and intermixed with one another, as in the forests of Brazil, there is an excuse for the cooly mixing the latex, but such conditions do not obtain in Ceylon.

In conclusion, it should be pointed out that the genus *Sapium* belongs to the same group of plants as Pará and Ceará rubber and crotons.

HERBERT WRIGHT,
Acting Director, Royal Botanic Gardens.

III.

[*From* THE TIMES OF CEYLON *August 19,*]

["SAPIUM" RUBBER GROWN IN GUIANA.]

SIR: I should have stated in my previous letter that seeds of the rubber producing plant, *Sapium biglandulosum* or *Sapium aucuparium*, the "Touckpong" of British Guinea, were received from Mr. Jenman in May, 1887. Mr. Jenman then stated that "the tree is quite hardy, of rapid growth, yields abundant milk, and the rubber is of high class quality." Samples of the rubber were shown at the Colonial and Indian Exhibition [London] in 1886, and were favorably reported on.—I have, etc.,

HERBERT WRIGHT,
Acting Director, R. B. G.

August 17, 1905.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THERE are distinct signs of animation in this parlous branch. A manufacturer told me the other day that he had had more inquiries the previous week than during the whole of last year. Perhaps this may be somewhat of an exaggeration, but this does not falsify my opening sentence altogether. A good deal, it is said, will depend upon the weather of the next few weeks. With regard to the motor clothing business, the wholesale firms say it is not large enough to attract them, and it is mostly in the hands of middlemen who buy the proofed cloth and make it up into the style of the moment. The macintosh coat is now being generally worn by owners of motor cars in preference to the leather one which is now the regular uniform of the professional driver. A material which is in considerable favor is that known as Burberry, being the product exclusively of a Hampshire firm of this name. Next to the macintosh coat it has the reputation of high waterproof properties, being in this respect considerably superior to the ordinary rainproof cloths. If unfavorable weather really is the one thing wanted to cause the waterproof trade to flourish, the wet August we have just experienced ought to have given the desired stimulus.

THE WATERPROOF TRADE.

TO satisfy the inquisitiveness of a motorist friend, I have been investigating the substance sold under this name as part of the motorist's outfit. It is intended for filling up cracks in tires, and is found of considerably more utility for this purpose than is the ordinary rubber cement. The main feature about it is its extreme stickiness. I cannot account satisfactorily for this as there is but little resinous matter present. It rather looks as if the rubber had been partially melted. It contains a little over 8 per cent. of litharge, but no sulphur. Except as a drying agent in reducing tackiness I don't quite see the object of the litharge. With regard to the utility of this mastic, I don't find unanimous approval among motorists, but there seems no doubt that it is superior to ordinary solution in the case of vulcanized rubber, and if put into a crack soon enough, it must certainly be beneficial in preventing the ingress of water and dirt.

MASTIC MICHELIN.

NO general arrangement with regard to an advance in prices in consonance with the high price of rubber has been come to, and the makers of rubber faced cards speak in lugubrious tones as to the position. Messrs. Horsfall & Bickam, of Manchester, though still outside the associated Yorkshire firms, are, it is understood, quite in agreement with them as to prices, but the antagonistic position taken up by the few other outside firms makes it impossible for any formal advance to be notified, as in other branches of the rubber manufacture, where practical unanimity has prevailed. The rubber face is still considered the best article for the cotton mill, but in the case of wool either the composition card or the plain felt is in general use. The oil used in the ordinary process of wool spinning is of course destructive to the rubber card, though less in the case of the vulcanized than the unvulcanized. The use of oil refers more particularly to the Bradford district the principal seat of the woolen industry. In Messrs. Holland & Sons' woolen mills in Manchester and Stockport the dry or French process is in sole use, no oil being here used in the spinning. The cards used are plain felt, though in this case if it were thought advantageous to have the greater elasticity given by rubber no objection could be urged on the score of oil as is the case at Bradford. It is now the rule to thoroughly free from oil Bradford goods which are intended for waterproofing purposes, and I have not heard for a long time of any trouble arising between the woolen manufacturers and the waterproofers on this score, though 20 years ago acrimonious correspondence was not infrequent. The weaving of woolen cloths is now at Bradford as well as elsewhere without the agency of oil, the warps being merely sized and this innovation on the practice of old times has relieved the waterproofer of his former anxiety. A point of some importance to the users of rubber faced cards is to prevent the steel points from becoming rusty. Owing to the well known destructive action of oil upon rubber there has naturally been much hesitation in using anything of an oily nature. I am informed, however, that recent experiments have resulted in finding an oleaginous body which answers the purpose well and which has no destructive effect upon the rubber. To nickel plate the steel, it appears, would be an expense which the business will not stand, though it suggests itself as eminently desirable.

THE CARD-CLOTHING INDUSTRY.

"THE object of the present invention is to reclaim waste vulcanized India-rubber, and render the same available for employment in the capacity of rubber previously unused." Thus Messrs. Gregory and Thorn, in a recent British patent. After reading the patent through I have come to the conclusion that though the object of the invention is no doubt correctly described, the results are anything but conclusive as to the object having ever been attained. Briefly described the process consists in grinding the rubber to crumb, boiling it in dilute hydrochloric acid to extract the mineral matters, drying the rubber, and then dissolving it in a mixture of aniline oil and naphtha. The solution is passed through a strainer and is then, we are told, ready for any purpose for which it is intended. I am quite in the dark as to what these uses for such a solution are. Supposing as stated that the solvent will readily evaporate at the ordinary temperature, this can only refer to the naphtha and not the aniline, which is an oily liquid boiling at 363° F. Surely some process of separating the rubber from its solution is necessary, and when this is done I fully expect it will be found that the separated rubber is of much the same value as the original ground crumb, and that it has not been devulcanized to any appreciable extent. The authors say that they do not claim the use of aniline as a solvent as a novelty, but only in their mode of application. Of course it may be that some vital part of the process has been withheld from the public eye in order to baffle the schemes of infringers; certainly as I have seen it in print I cannot see that the patent has any value. Of course aniline as a solvent for waste rubber is not novel. I understand that the chief reason for its abandoment was the expense. Complete solution of the vulcanized rubber in an oily liquid is the principle of the patent taken out by Robinson Brothers & Clift. The liquid they use is what is known as heavy bases, a residue in the preparation of pyridine from coal tar. In this case, the mineral matters fall to the bottom of the solution vessel, and there seems no object in previously removing them by hydrochloric acid according to Gregory's patent. Moreover in Robinson's process it is not suggested that the oily solution of rubber should be utilized, but the rubber is completely separated from solution by chemical

RECLAIMED RUBBER PATENTS.

means on lines well known to those who manufacture coal tar products.

LAWN TENNIS BALLS.

FOR many years as will be remembered the bulk of the retail business was done by Messrs. Ayres. Then three years ago Messrs. Slazenger, their most formidable opponents, got the bulk of the tournament and club orders owing to some extent no doubt to the fact of their having a very prominent British player on their board. I understand that neither of these firms make the ball; they buy the balls from the rubber manufacturer and put the felt covering on. What difference there is between them seems to be largely a matter of the quality of the felt and of uniformity in size and weight. The ordinary player no doubt would not see any difference between one make and another, but the leading players are very discriminating and a good deal of discussion has been going on lately with regard to the relative merits of the balls supplied by the two firms. Of course I am referring only to the championship balls, sold at a shilling each; the cheaper balls have not a very large sale and when bought they are often made to do duty for a long time. In the principal tournaments large numbers of balls are used; for instance in the final at Wimbledon between the American and British pairs for the Davis challenge cup six new balls were used in each of the five sets played and no doubt a correspondingly large number were used in the previous international contests which did not come under my personal observation. The principal makers of lawn tennis balls are Messrs. Charles Macintosh & Co., The Irwell and Eastern Rubber Co., and the New Eccles Rubber Works—the last firm, as will be remembered, using the Cox patent machine. Owing to the fact of the quality remaining the same while the price of rubber has advanced the manufacturers have naturally had to advance their prices to the middlemen; as, however, the retail prices have not been raised it is a fair supposition that the profits of the latter have suffered a serious diminution. It may be therefore, though I speak without any actual knowledge, that a lower quality of felt covering has been used in order that the business may be maintained without loss. A difference between Ayres's and Slazenger's balls which I have not mentioned is the degree to which they are blown up: this difference is quite perceptible in some seasons and players who have accustomed themselves to one make find a difficulty in showing to advantage with the other. Of course the middlemen are not limited to British balls; the Germans have long had a cut in though what the present position is with regard to their competition I am unable to say.

CEYLON RUBBER PLANTING.

A RECENT financial supplement of *The Times* contained a special article on Ceylon rubber, attention being drawn particularly to the expected labor difficulty, and the need of more railway communication to deal with it. No doubt this matter will become of increasing importance; it has already become acute in the Straits Settlements where a partial solution has been obtained by the importation of Javanese. At present most of the Ceylon labor is obtained from India, the Cingalese not having much reputation as workmen. In contradistinction to what obtains in Brazil, however, there is no climatic reason against the employment of European labor in Ceylon, and we may see labor largely augmented from this source in the future. Of course the labor question can never become of the same importance with rubber as with tea and coffee. In the latter cases the produce is spoilt unless gathered at the right time, while with rubber the matter resolves itself merely into delay, the product improving rather than deteriorating by remaining in the tree. So far the canker pest seems the worst enemy the Ceylon planters apprehend, though I understand that loss from this source can be largely minimized by energetic and prompt measures at its first appearance.

WHITE LEAD LEGISLATION.

A LAW will shortly come into operation in France forbidding the use of white lead as a paint on account of its poisonous properties, a piece of legislation much on a par with the prohibition of phosphorus matches in Holland and Scandinavia. With regard to the white lead in France, this may have the result of raising the price of zinc oxide, which must now be more generally used. I only suggest this as a possible contingency which the French rubber manufacturers may have to face. Against this, however, there is the recent increased production of zinc in many countries of the world, notably in Australia, where the old problem of treating complex zinc ores seems at last to have been satisfactorily solved. If one can gage the future at all, the outlook is all in favor of cheaper zinc and consequently of cheaper oxide. Despite the numerous attempts which have been made to produce the oxide direct from the ore, practically no success has been attained in Europe, the Vieille Montaigne product made by burning the metal still holding the field. In America, however, the oxide is prepared direct from the refractory zinc ores of New Jersey, though this product hardly comes at all into competition in Europe with the Belgian oxide.

NEW RUBBER SCRAP MACHINE.

IN my August notes (page 373) I made a short reference to a new process for recovering rubber from insertion by mechanical means alone. Having had some enquiries on the matter, I will endeavor to explain the process somewhat in detail. The rubber containing fiber and metal is first ground up to powder by rolls in the ordinary way. The powder is then allowed to fall on a grating through which a current of air is blown. The grating has a jolting action, the result being that the fiber is blown away while the rubber and metal fall through the grating into a centrifugal fan. The action of this is to force the material against a screen, but in its fall it meets with a cross blast from another fan so regulated that it blows the comparatively light rubber down into a bag while the metal continues its course into a receptacle farther on. This description may not be very easy to follow, but at any rate it will give a general idea of the process. I can't say that I am much enamored of it, though I speak without any practical experience of it. It seems to me that existing methods are simpler and likely to prove less costly. Of course there may be special cases where its utility could not be called into question, and I may take an opportunity of again referring to the matter, should further details come to hand.

FUTURE PRICE OF SULPHUR.

THE fact that the monopoly of the world's sulphur supply so long held by Sicily is now a thing of the past, owing to the successful exploitation of the Louisiana deposits, is a matter of general interest. Among those who have a special interest in forthcoming events are the rubber manufacturers, for it is evident that a war of prices must ensue between the Union Sulphur Co.—the new American concern—and the Anglo-Sicilian Sulphur Co., which rules the destinies of Sicily. The latter has not yet decided whether to enter on a new arrangement for a term of years. Certainly in the past few years it has been a decided benefit to the volcanic island in regulating output and prices, and at the same time it has paid its shareholders substantial dividends. From a circular sent out from Stuttgart, where the European agency of the American Co. is located, it seems that a strong bid will be made for European business, and the outlook for the Sicilian miners is anything but promising, all the more if the American claim of higher purity for their product is found to be strictly the fact.

BAD CONDITIONS IN THE ACRE RUBBER DISTRICT.

*By Senhor Franco Vieira.**

IT is an urgent necessity for the government to provide legislation for the *seringaes* (rubber camps). At the present time the proprietors of the lands are left without any security.

After the treaty of Petropolis, by which the government purchased from Bolivia nearly the whole of the department of Upper Acre, Colonel Cunha Mattos, at that time the prefect, promulgated a land law, providing for a term of two years, during which the owners of the *seringaes* were to mark the boundaries of their lands, so as to obtain title thereto, the said owners paying to the Union, however, a sum which, unless we are mistaken, was fixed at 5-100 of a real per square meter.

The same regulations provided for a term of six months, during which those who had prospected and taken possession of lands could take out a provisional title, in order to secure the occupation of the explored lands.

According to our information, about 30 provisional titles were issued, while there were recorded at the office of the secretary of the prefecture 10 to 12 final titles which had been issued by the government of the state of Amazonas, as well as those granted by the Bolivian government. It will be well to add that both governments received money for the sale of the lands in question, and there can be no doubt, therefore, that the owners of final titles issued by either of the said governments have at this time the uncontestable right of ownership to the lands in question.

It was thus understood by the colonel ex prefect, as is shown by the following instance: When the Messrs. Joaquin Alves Maia and Fiusas Porto & Cia., proprietors of the *seringaes* of "Soledade," the first named of those on the left and the last named on the right bank of the Acre river, applied for the titles of ownership to the said *seringaes*, on the ground that they had previously paid the purchase price to the government of Amazonas, there being scarcely due more than the last instalment, their application was granted, the balance of the purchase price being collected by the revenue office at Porto Acre, and the respective titles of ownership issued.

The above were the only titles granted, because, in spite of the fact that many other lands were in the same condition, no more titles were issued on account of the receipt by the prefect of a copy of a telegram from the secretary of the interior, addressed to the special delegate at Manáos, in which the secretary declared that the prefects did not possess the right to give a decision in regard to the sale of lands, the government of the Union alone being competent to do so.

This resolution, which seriously affected the interests of the proprietors of *seringaes*, was unfavorably received by the inhabitants of Acre, who, since the revolution, had been anxious to have their rights confirmed, the more so as many of them had been occupying the lands for more than 10 or 20 years past, and had wasted their youth in such an unhealthy place, suffering the severest privations, only to see themselves at the present time deprived of all security of possession.

We feel sure, however, that the government, being now better informed, will take action for the care of the interests of the population of Acre, whose resources are at the present time exhausted, the greater part of the land owners finding themselves in this condition because they gave all they could for the support of the revolution against Bolivia, as they were anxious to have the department of Upper Acre become the property of the Brazilian government.

Only those who traveled through this region and were able to observe the patriotism by which the population is inspired, have seen how, after the end of the revolution, many citizens who were formerly wealthy, turned to the cutting of rubber trees, as they had become absolutely poor, and were, moreover, dispersed among the towns of Pará and Amazonas.

Not one of these had received an indemnity.

What these people demand to-day is the securing of their rights, the respecting of their interests, and such legislation as will secure to them the fruits of their honest labor.

The territory is immensely rich, and if the government will facilitate immigration and provide labor laws in accordance with the requirements of the region, we shall within a short time see Acre become a state well worthy of standing by the side of Pará and Amazonas. The rubber crop alone would suffice to bring about such prosperity, because, besides the present large export, it will be well to keep in mind that the greater part of the department of Upper Acre remains to be explored, the rubber lands there being still virgin territory.

If the department of Upper Acre exported last year more than 2,000,000 kilograms of India-rubber, besides the Caucho and *sernamby*, without having the labor which it requires, we can imagine what the result would be if the current of immigration were directed towards it. The production would, without exaggeration, be three or four times larger, and thus secure to the government a fabulous revenue, well capable of wiping out within a short space of time the deficit resulting from the purchase of the territory.

In order to bring this about, it will be sufficient for the government to extend aid to those desiring to go to Acre, which would not be very expensive, a third class passage from any of the northern states to Upper Acre, Purús, or Juruá, not costing more than 300 milreis.* Now, as each immigrant would produce at least 600 kilos [=1322¾ pounds] of India-rubber, at the rate of 7 milreis, or a total of 4200 milreis, on which a duty of 18 per cent., or 756 milreis would be levied, this amount would within the first year pay for the passage and leave a not inconsiderable balance.

In making up the above figures, we have taken into account those who may die in the territory in question, as many of the survivors will produce twice the above mentioned quantity and even much more. The government has, moreover, facilities at its command for making shipping contracts, thereby largely reducing the price of the passage as quoted above.

In the meantime, the proprietors of *seringaes* who come down each year in search of help, can make contracts with a few persons only, because the cost of loans of capital is enormous, and whenever payment is not promptly made, the rate of interest at harvest time rises above 20 per cent.

Consequently, the proprietor of a *seringal* who would require 500 to 600 men, works with 100 men only, or at least with only a few more, for, if he has a surplus of 20 or 30 men, an equal number of those he has assisted will go away to see or visit their families.

It was impossible to take a census of the department in ques-

* In the *Jornal do Brasil* (Rio de Janeiro)

* With exchange at 17 pence, equal to $103.41, gold.

tion, notwithstanding the good intention of the ex-prefect, but the population is figured at 10,000 to 20,000 souls, the majority being entirely illiterate. For this reason the prefects are meeting with enormous difficulties in obtaining persons fit to fill Federal offices, as we have stated before.

We shall not, however, deviate from our purpose of petitioning the government to direct the flow of emigration towards this department, and when this shall have been accomplished, we believe we shall have rendered one of the best services to the inhabitants of Acre, as well as to the whole of Brazil, which will, within a few years, have in Acre an enormous source of revenue.

RUBBER MONOPOLY IN NICARAGUA.

THERE was due to go into effect on September 1 a concession granted by the president of the republic of Nicaragua to two citizens of that country, for a monopoly of rubber gathering from wild trees in certain districts which now yield the greater part of the rubber exported from that country. It is known that the granting of the concession was strongly opposed by at least two important commercial houses having connections in Bluefields. A report reaches THE INDIA RUBBER WORLD that the districts covered by this concession yielded during the last fiscal year about 350,000 pounds of rubber; the total exports of rubber from Nicaragua in 1903 amounted to 530,090 pounds. The amount payable to the government by the concessionaire is equivalent to about $160 gold. The Bluefields *American* says: "It is a measure which vitally interests every merchant on the coast and rivers. We mean those who have, as has always been the custom, advanced merchandise and cash to the rubber cutters in the hope of being paid back in rubber." It is stated that another rubber concession has been granted to the minister of fomento for the territory of Cabo Gracias, but has been suspended indefinitely.

A translation of the concession first mentioned follows:

CONTRACT.

José D. GÓMEZ, Secretary of Commerce, Industry, Agriculture, Public Works, etc., in his capacity as representative of the Government, being the party of the first part, and FRANCISCO GUERRERO and JUAN DE DIAS MOREIRA, being the party of the second part, have agreed to enter into the following contract:

I. The Government leases to Messrs. Guerrero and Moreira, for a term of 10 years, the exploitation of the rubber producing lands situated within the jurisdiction of the department of Zelaya and the districts of Prinzapolka and Rio Grande.

II. For the purpose of preventing the destruction of the rubber trees, and of making sure that they will be cared for, Messrs Guerrero and Moreira obligate themselves to employ expert rubber gatherers who will observe and strictly comply with the provisions of Article II of the Regulations of October 15, 1901, reading: "It is prohibited to make incisions in rubber trees, of such a depth as to affect the wood itself. It is likewise prohibited to make incisions extending to more than one half of the circumference of the trunk or branches. Any infringement of the provisions of this article will be punishable by a fine of 5 dollars (pesos) for each damaged tree."

III. Messrs. Guerrero and Moreira shall, during a term of 10 years, pay to the Government an annual rental, amounting to the sum of 1000 dollars (pesos) in treasury notes, the said rental to be paid into the general treasury at the end of each quarter, without prejudice to the payment of the export duties.

IV. No one shall be permitted to extract rubber on national lands within the territory covered by this contract, and without a written permit from the lessees, all infringements of this provision being punishable by the forfeiture of the rubber for the benefit of the lessees, one third part of the same being allowed to the informer or the party apprehending the guilty person, without prejudice to the penalties provided in the Regulations of October 15, 1901.

V. Whenever the lessees are not the exporters, the chief of the Bluff custom house shall not permit the shipping of rubber, and shall confiscate the quantity submitted for export, unless the party interested shall attach to the respective application a voucher stating the place of origin of the rubber and specifying the names of the particular ranch or rubber producing lands and of the proprietor thereof, certified to by the highest authority of the township to which the ranch or rubber producing lands belong. Should he not be the owner of rubber producing lands, he will be obliged to produce the authorization referred to in Article 27 of the Regulations of October 15, 1901. The lack of the aforesaid documents, shall, whenever it occurs, make the official who shall permit the shipping, subject to a fine amounting to 50 per cent. of the value of the exported rubber.

VI. This present contract may be transferred in whole or in part to any person or company complying with the provisions contained therein. If the said person or company should, however, be of foreign nationality, they will be subject to the laws of this country in all matters involving this present contract which shall be in force from the first day of September next.

VII. Default in the payment of the annual rental referred to in Article III, as well as any infraction of Article II, shall constitute sufficient reason for the annulment of this contract, which is to be submitted for the approval of the Executive.

In witness whereof we affix our signatures to this present contract, at the Department of Commerce, Industry, Agriculture, etc, at Managua, on the second day of August, 1905.

JOSÉ D. GÓMEZ.
FRANCISCO GUERRERO.
J. DE D. MOREIRA.

The President of the Republic decrees: To approve the foregoing contract.

Managua, August 2, 1905.

Signed for the President.

The Secretary of Commerce, Industry, Agriculture, etc.

GÓMEZ.

* * *

THE last published report by the British consul on the trade and commerce in Nicaragua says: "All the India-rubber exported is gathered in the mountains from forest trees, and the rubber cutters being under no restraint bleed the trees to excess, cutting even very young trees that can give but little milk. In consequence many trees die, and the amount collected tends to diminish every year; nevertheless, India-rubber still appears as the fourth in value of the exports from Nicaragua, and in the year 1903 530,090 pounds valued at £58,405 were shipped, all of which, with the exception of 277 pounds sent to the United Kingdom, went to the United States of America. The price of Nicaragua India-rubber in the United Kingdom is about the same as in the United States of America, and the reason why practically the whole of this produce is shipped to the United States is partly on account of the cheaper freight, but more especially owing to the continuous loss of weight from evaporation that the rubber undergoes. In New York, the principal market, the India-rubber is nearly always sold, immediately on arrival, 'ex wharf,' whilst in London the rubber is generally warehoused and not sold until the periodical auction sales take place in Mincing lane. The increased loss of weight caused by the delay, in addition to the heavy wharfage, warehousing, and sale expenses, and the increased freight and delay in returns, makes it more profitable to consign the India-rubber to New York firms rather than to ship it to London."

PROGRESS IN RUBBER PLANTING.

MALACCA RUBBER PLANTATIONS, LIMITED.

THE formation of the company which is to acquire the important Bukit Asahan rubber estate, in the Malay peninsula, mentioned in this Journal last month (page 413), and in which American capital is to be interested, has been undertaken, according to *The Times of Ceylon*, by Messrs. Jeremiah Lyon & Co., of 4, Lombard court, E. C., London. It appears that the Messrs. Lyon have been connected in the past with important flotations. News has reached Colombo by wire of a delay in the flotation of the Malacca Rubber Plantations, Limited, due entirely to some question of title remaining to be settled. It was asserted that everything was in order, and that only formalities had to be observed.

Low Gek Seng, late manager of an important mercantile firm at Bangkok, chief member of the Chinese syndicate which coöperated with the representative of Alden, Symington & Co. in securing an option on the rubber estate, and who accompanied him to London, has supplied some details regarding the estate and the proposed plan of capitalization, which appear in *The Straits Times*. It appears that there are 3500 acres fully planted (including 500 acres to be planted with rubber this year) there being all told about 648,000 rubber trees, the ages of which are indicated by the following record of planting:

YEAR.	Para (*Hevea*).	*Ficus elastica*.
1899	19,763	4,393
1900	43,443	12,286
1901	142,050	11,315
1902	63,929	19,353
1903	106,120	13,370
1904	191,820	20,158
Total	567,125	80,875

The proposed new company to be registered in London—Malacca Rubber Plantations, Limited—is to be capitalized at £400,000, in £1 shares, as follows:

£285,000 in ordinary shares.

£115.000 in 7½ % cumulative preferred ordinary shares.

Of the ordinary shares, £200,000 will be issued as part payment to the vendors and £85,000 issued for subscription, the proceeds to be devoted solely to opening up in rubber an additional 6000 acres, which have been secured for the new company. On each of these 85,000 shares the first call will be for one-eighth, with further calls for one-eighth at periods not less than 6 months apart. Of the proceeds of the 115,000 preferred shares, also to be offered for subscription, £100,000 is to be paid in cash to the vendors, and the remaining £15,000 used for formation and working expenses, it being guaranteed that the cost of formation shall not exceed a specified low figure.

As already mentioned in these pages, the Bukit Asahan estate has been developed by The Malacca Rubber and Tapioca Co., Limited, with offices at 39 Heeran street, Malacca. According to the "Singapore and Straits Directory" the directors are: Tan Chay Yan (chairman), Tan Tat Yan, and Seet Lian Seek. The general manager of the company is Tan Cheng Yan, his assistant Tan Tat Yan, and the estate manager Tan Tiam Hock. Tan Chay Yan is a wealthy Chinaman, mentioned in the directory as manager of the estate of Tan Tek Guan, at 39 Heeran street, and the other Tans are relatives. Seet Lian Seek is in business at Singapore.

The Bukit Asahan estate has been visited, reported on, and valued by Mr. W. W. Bailey, who is recognized as one of the best authorities on rubber planting in the Straits. His report, sent to London, has not been made public in the Far East.

RUBBER PLANTING IN KALUTARA (CEYLON).

[From the annual report for 1904 by Mr. B. Horsburgh, assistant government agent for the Kalutara district.]

HITHERTO rubber cultivation has been entirely in the hands of European planters, but enterprising natives are now taking up the product, though the ordinary cultivator still prefers to trust to the old and tried cocoanut tree. There are 6759 acres of tea land planted with rubber among the tea bushes. For land exclusively planted with rubber the following figures give the areas and show the progress made:

1901	436 acres	1903	1,127 acres
1902	667 "	1904	3,301 "

One hundred and seventy-eight acres are entirely in native hands. The output figures are as follows:

1901	3⅛ tons	1903	15 tons
1902	7½ "	1904	23½ "

—the approximate area in bearing during 1904 being 242 acres, or 49,484 trees. So far there has been no appearance of disease, and planters are confident of the healthy state of the plantations.

ISTHMUS RUBBER CO.—REORGANIZATION.

INVESTORS in the Isthmus Rubber Co. of Ubero—incorporated in 1901 with headquarters at No. 29 Broadway, New York, to form a rubber plantation near Ubero, in the state of Oaxaca, Mexico—have received circulars from the office of the company outlining plans for the merger of the company named and the Oaxaca Real Estate Development Co., with which later company a contract exists for the development of the lands sold by it to the Isthmus company. These circulars set forth that the failure recently of two rubber planting companies in Boston, and an unwarranted attack made upon the Isthmus company in connection with the affair, have worked a great detriment to the Isthmus company, in that the sale of stock has fallen off and many subscriptions for shares have been cancelled. The resulting loss of income will prevent the company from complying fully with its contract with the Oaxaca development company, which default would justify the latter in cancelling the contract and taking over from the trustees the land in question and the developments to date. A meeting of shareholders in the Oaxaca Real Estate Development Co. has been called for October 9, at Jersey City, and a meeting of investors in the Isthmus Rubber Co. for October 10, in New York, for the purpose of voting on the plan of merger, which involves the forming of a new corporation to succeed the two old companies, for which the name Oaxaca Rubber Co. has been suggested. Under the new plan there will no longer be an "inside" or development company, but all persons in interest will share in the profits of planting and development work, whereas hitherto these profits have not been participated in by the investors in the Isthmus company.

LA TRINIDAD MEXICAN PLANTATION CO.

[Plantation: "La Trinidad" and "Ixtal," near San Juan Evangelista, state of Vera Cruz, Mexico. Office: Monger block, Elkhart, Indiana. See THE INDIA RUBBER WORLD, May 1, 1902—page 253.]

THIS company was incorporated July 20, 1905, under the laws of Maine, with $300,000 capital, to take over the entire assets of La Trinidad Mexican Plantation Association (Chicago), organized March 1, 1901. A new board of officers has been elected: Horace Hogendobler, Elkhart, Ind., president; Louis M. Cahn, Chicago, vice president; C. L. Andrews, Augusta, Me., clerk; W. H. Hoffman, Goshen, Ind., secretary;

Willard M. Ellwood, Elkhart, Ind., treasurer. The investors in the old company are informed that the new company will have direct charge of operations in Mexico, instead of the plantation being managed through contract with a development company as heretofore by La Trinidad Mexican Plantation Association. Mr. Pearson, of THE INDIA RUBBER WORLD, spent some time on the company's hacienda "Ixtal" in the early part of 1903, and photographic views of the plantation appeared in the August issue of this Journal in that year. Treasurer Ellwood now writes: "We have the oldest rubber so far as we know on the gulf coast in the Isthmus territory but do not expect to commence tapping commercially for two or three years."

ORIZABA RUBBER PLANTATION CO.

[Plantation "El Chival," Salto de Agua, state of Chiapas, Mexico. Office: No 21 Quincy street, Chicago, Illinois. See THE INDIA RUBBER WORLD, March 1, 1904—page 185.]

THE last report by an inspector chosen by the shareholders, dated September 1, 1905, is signed by W. S. Sweeny, principal of a public school in Jersey City. He arrived at the company's plantation on July 25, and his report gives detailed statements in regard to the various features of the plantation, which is principally devoted to rubber. He concludes his report on the condition of the plantation: "Nothing short of a convulsion of nature or the worst of bad management can make it a failure." Mr. Sweeny's report includes notes on a number of other company and private plantations of rubber which he saw while in Mexico, the condition of which on the whole further encourages him in the hope that rubber planting there promises ultimately to be exceedingly successful. For instance, he mentions "La Ventura" plantation [in charge of Mr. James C. Harvey], who, after tapping experimentally some six year old rubber trees to determine the quality of the rubber, submitted samples of the product to rubber merchants who offered him $1.05 gold for such rubber in large quantities. Mention is made of Señor Pedero, who claimed to have 2000 cultivated rubber trees 14 years old, which he had tapped for several years, selling the product, and that there were several other plantations in his neighborhood of from 10,000 to 50,000 trees from which rubber had been shipped for years. The report adds: "Juan Roviera has a plantation 30 miles north of Huimanguillo, which contains 2000 cultivated trees 12 years old. When the trees were nine years old he took one pound of rubber from each tree and sold it for $2200 gold." Dr. George B. Abbott, who has been mentioned before in these pages as the plantation manager, is about to retire after several years' residence in the tropics and be succeeded by Mr. P. L. Barrenquy, who is mentioned as having had 15 years' experience in tropical agriculture.

RUBBER TAPPING IN NICARAGUA.

THE tapping of six year old *Castilloas* at the "Canada" plantation, Bluefields, Nicaragua, shown in the illustration, is along lines worked out by Mr. Gordon Waldron, resident manager and largest owner. The tool used is made from a *machete*, and is of the chisel type. Under the cut is placed a tin cup, twelve cups to the tree. When the flow ceases the latex in the cups is poured into a pail of water, and the cup rinsed out. Coagulation is effected by boiling.

RUBBER AT THE PENANG (MALAY STATES) SHOW.

THE second yearly Agri-Horticultural Show of the Federated Malay States was opened at Penang on August 9, by the governor, Sir John Anderson, K. C. M. G., with a very encouraging attendance. The local newspapers devote special attention to the very large and varied exhibit of rubbers produced from plantations. The *Malay Mail* says: "The interval of a year since the Show was held here has made an enormous difference in the state of rubber preparation. A year ago our planters were working more or less in the dark, and it was only then at the Show itself that the washing machine which appears to have such a great future before it was brought before the public gaze. [See THE INDIA RUBBER WORLD, October 1, 1904—page 12.] Here the exhibit of rubber was but small, but according to information to hand ample amends appear to have been made in this respect at the Show now pursuing its successful course in the northern colony." The governor in his address spoke of the great advance made by the rubber planters in the preparation of their rubber since last year. He said that the success with rubber had had the interesting effect of attracting the company promoter, a very astute gentleman whom he warned the planters to be very careful in dealing with; however other people come out, a company promoter will always come out well. He reminded the planters that what is good to sell is generally good to keep, and that they should not be in too great haste to dispose of their plantations. He would rather see a planter looking after his own estate than a manager looking after the land on behalf of an absentee company. Mr. W. R. Span showed a machine for preparing rubber, which is described as not unlike a clothes wringer except that it has three rollers working at varying speeds. The rubber is drawn through the rollers, which extract the water, and comes out in thin dry sheets. The machine was awarded a diploma and the handsome cup presented by members of the Engineers' Institute.

NEW CEYLON PLANTING COMPANIES.

RATNAPURA Rubber Co., Limited, with a nominal capital of 250,000 rupees [= $81,100] has purchased Kosgalla and Gabella estates, at Ratnapura in Kuruwita district. There are 563 acres, of which 138, on Kosgalla, are in tea, which is to be interplanted with rubber, and the rest is forest land which will be developed in rubber later. The first directors are R. F. S. Hardie, R. W. Harrison, M. F. Khan, and E. M. Shattock.

=Kapar Para Rubber Estates Co., Limited, registered in London August 28, 1905, with £50,000 capital, to adopt an agreement with J. B. Fletcher, W. W. Bailey, and W. Newett, providing for the acquisition of certain property in the Federated Malay States, and to carry on the business of rubber planters. Registered office: 81, Gracechurch street, E. C., London.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

Issued July 18, 1905.

No. 794,725. Vehicle wheel [with sectional elastic tire]. E. Mari, Buenos Ayres, Argentina.

794,766. Hose coupling. Samuel G. Wright and J. T. Vines, Huntington, W. Va.

794,782. Stopper holder for water bags. A. C. Coe, Orange, Conn., assignor to The Falcon Rubber Co., New Haven.

794,814. Reservoir pen. W. W. Sanford, Newark, N. J., assignor of one half to F. D. Bennett, Freehold, N. J.

794,815. Vehicle tire and rim. F. A. Seiberling. Akron, Ohio.

794,816. Vehicle tire. *Same.*

794,832. Footwear. [Shoe having an elastic sole.] C. T. Adams, New York city.

794,836. Fountain pen. T. P. Ambrose, Cincinnati.

794,879. Rim for wheels [to retain a pneumatic tire]. J. M. Padgett, Topeka, Kans.

794,892. Packing. A. B. Schier, Milwaukee, Wis.

794,920. Gasket. D. C. Blanchard, Chicago.

794,987. Packing. G. M. Kneuper, New York city.

795,069. Hose coupling. R. F. Settlage, St. Louis.

795,075. Leather and rubber sheet or strip. J. J. Steinharter, Philadelphia.

795,076. Apparatus for coating leather with rubber. *Same.*

795,108. Pneumatic pillow. L. F. Doellinger, assignor of one half to L. M. Holliday, both of Des Moines, Iowa.

795,171. Tire for vehicle wheels. F. Sadler, Wandsworth common, England.

795,176. Fire apparatus. S. A. A. Stenberg, asssgnor of $\frac{42}{100}$ to W. E. Cumback, both of San Francisco.

795,210. Hose clamp. H. N. Evans, assignor of one-half to F. DeW. Morris, both of Philadelphia.

Trade Marks.

2404. Fabric hose. Eureka Fire Hose Co., Jersey City, N. J. *Essential feature.*—The representation of a Greek cross printed in red interposed between the two words RED and CROSS.

2405. Fabric hose. *Same. Essential feature.*—The representation of a red ball interposed between the two words RED and BALL

4124. Insulating compounds. Standard Underground Cable Co., Pittsburgh. *Essential feature.*—The word STANDARD.

5220. Fabric belting. Eureka Fire Hose Co., Jersey City, N. J. *Essential feature.*—The words EUREKA BELTING encircled by the representation of a belt.

Issued July 25, 1905.

795,280. Rubber heel pad and means for attaching same to boots or shoes. W. C. Hawtin, Leytonstone, England.

795,307. Rubber tire fastener for wheels. G. T. Reed, assignor of one third to A. H. Belmschia, both of Baltimore.

795,323. Apparatus for electrothermal treatment. D. M. Watson, Portland, Ore.

795,412. Pneumatic grain elevator. S. Olson, Chicago.

795,536. Bathing apparatus. S. C. Neal, New York city.

795,569. Fountain pen. T. P. Ambrose, Cincinnati.

795,603. Tongue shield. H. Gardner, assignor of one-half to H. T. Offterdinger, both of Washington, D. C. [Described in The India Rubber World, August 1, 1905—page 376.]

795,652. Vehicle tire. F. A. Ruff, Detroit, Mich.

795,732. Tire [comprising a plurality of arc shaped plates]. C. D. Purdy, Gladwin, Mich.

795,767. Vehicle wheel [with a protective armor of chains]. J. H. Hershberger, Wilkesbarre, Pa.

795,796. Hose coupling. C. Gottwald, assignor of one-half to J. A. Diehl, both of Cleveland, Ohio.

Trade Mark.

3,693. Insulating materials and covering embodying rubber and used for electric wires and cables. The Eureka Rubber Mfg. Co. of Trenton, N. J. *Essential feature.*—The representation of a star, having the letters of the word EUREKA appearing on its points, and inclosing concentric circles, one of which is formed of dots. Within the outer circle appear the words and a character EUREKA RUBBER INSULATED WIRES & CABLES, and one of the inner circles is shaded by means of parallel lines, all inclosed in an outer circular figure.

Issued August 1, 1905.

795,906. Vehicle wheel tire. H. Garner, Nantwich, England.

795,960. Toy snap-back ball. J. B. Cook, Toronto, assignor of one-half to T. Cook, Hamilton, Ontario.

795,977. Hose coupling. J. Hogan, Escanaba, Mich.

796,673. Vehicle tire. [Solid.] F. M. Hilton, J. S. Hilton, and W. W. Hilton, Akron, Ohio.

796,114. Electrotherapeutic apparatus. H. E. Currey, Baker City, Oregon.

796,132. Hand stamp. W. Laycock, Chicago.

796,167. Emergency tire. H. C. Waite, assignor of one eighth to G. H. Atkins and one fourth to R. F. Mayhew, all of Milwaukee, Wis.

796,306. Hose coupling. I. W. Exley, Colville, Wash.

796,400. Tire. [Composed of yielding material having a metallic facing]. F. H. Bowly, New York city.

Trade Marks.

177. India-rubber tires, solid and pneumatic and India-rubber cover bandages, repair sheets, plasters, and patches for such tires. Continental Caoutchouc Co., New York city. *Essential feature.*—The representation of a prancing horse at the center of concentric circles, between which appear the letters, character, and abbreviation C. C. & G. P. CO. H.

2,411. Fabric hose. Eureka Fire Hose Co., Jersey City, N. J. *Essential feature.*—The words 20TH CENTURY.

4,497. Rubber vehicle tires. The Goodyear Tire and Rubber Co., Akron, Ohio. *Essential feature.*—The words THE BROADWAY.

4,498. Rubber vehicle tires. *Same. Essential feature.*—The word SPEEDWAY.

4,499. Rubber vehicle tires. *Same. Essential feature.*—The word RELIANCE

4,500. Rubber vehicle tires. *Same. Essential feature.*—The word WING.

Issued August 8, 1905.

796,599. Hose binder. J. J. McIntyre and H. Bagshaw, Hartford, Conn.

796,625. Resilient wheel. R. Bernat, Bordeaux, France.

796,664. Tire. [Pneumatic.] A. DeLaski, Weehawken, N. J.

796,873. Vehicle wheel [with pneumatic tire]. F. A. Seiberling, Akron, Ohio.

796,894. Tire and rim. [Pneumatic.] J. Butler, Altrincham, England.

796,930. Rubber tread. P. W. Pratt, Boston.

796,955. Hose holder. A. G. Burton, Denver, Colo.

Trade Mark.

855. Fountain pens. Boston Fountain Pen Co., Boston. *Essential feature.*—A representation in perspective of the old Massachusetts state house, with the representation of a fountain pen of enormous size passing through and projecting on both sides of the state house.

Issued August 15, 1905.

796,994. Horseshoe [with rubber pads]. J. H. Gay, Milwaukee, Wis.

797,035. Method of attaching a rubber body to another body [as in making horseshoe pads]. R. Whitaker, Jr., assignor to the Neverslip Manufacturing Co., both of New Brunswick, N. J.

797,136. Life preserver. H. T. Manlove, Evanston, Ill.

797,138. Fabric for pneumatic tires. C. L. Marshall, Newark, N. J.

797,194. Elastic fabric. J. L. Gilson, assignor to Howard Manufacturing Co., both of Boston.

797,200. Pneumatic tire. J. O. Haas, Pottsville, Pa.

797,365. Douche. [A compressible bulb of special form, for syringes and the like.] C. W. Meinecke, Jersey City, N. J.

797,367. Connection for inflating rotating tires. [Attached to the wheel and worked by it while in motion.] A. L. Olson, Essex, Conn.

797,384. Hydrant and hose coupling. W. S. Thurston, Jacksonville, Fla.

794,434. Launderable bib. A. Homeyer, Jersey City, N. J.

797,447. Bicycle pump. F. B. Merry, assignor of one half to B. Merry, both of Augusta, Ga.

Trade Mark.

6,346. Waterproof leather belting. Holyoke Belting Co., Holyoke, Mass. *Essential feature.*—The word SUBMARINE.

[Note.—Printed copies of specifications of United States patents may be obtained from The India Rubber World office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* *Denotes Patents for American Inventions.*

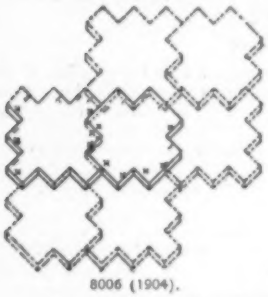
[ABSTRACTED IN THE OFFICIAL JOURNAL, JULY 26, 1905.]

7795 (1904). Treatment of waste ebonite or vulcanized rubber for use in insulating compounds. V. de Karavodine, Paris, France.

7810 (1904). Tire formed of hollow or solid rubber blocks, made with bases which engage under metal frames. F. J. Chary, Paris, France.

7848 (1904). Anti slipping tire tread. M. M. and A. E. Dessau, Merton, Surrey.

7808 (1904). Exercising apparatus. [Dumbbell in two parts pivoted together so as to rock, and provided with rubber cushions to prevent noise.] H. Fairbrother, London.



8006 (1904).

7945 (1904). Removable boot heel. R. Jelen, Bohemia, Austria.

8006 (1904). Interlocking floor tiling. [Tiles are made with U, V, or other shaped interlocking projections and recesses, occupying preferably a third of their thickness. The tiles may be arranged in patterns and may be molded with different designs on the face or have colored or shaped centers.] A. Whiteway and Charles Macintosh & Co., Ltd., Manchester.

8072 (1904). Golf ball [with padding between the central core and the outer cover made of perforated rubber sheeting vulcanized before being wound on]. P. Cruickshank, Edinburgh.

[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 2, 1905.]

8337 (1904). Revolving heel protector. F. W. Farr and J. Power, Bedford.

8364 (1904). Firemen's helmet with air cushion and means for supplying fresh air. J. H. and A. B. Dräger, Lubeck, Germany.

8442 (1904). Pneumatic tire with special tread. J. C. Graham, London.

8586 (1904). Portable vulcanizer especially for repairing tires. W. Hill, G. Leeson, and County Chemical Co., all of Birmingham.

* 8606 (1904). Horseshoe pad. J. E. Hoffmann, New York.

8697 (1904). Golf ball. J. Crosland and British Insulated and Helsby Cables, Ltd., Warrington.

[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 10, 1905.]

8740 (1904). Adjustable boot heel. E. A. Lancaster and S. Hackett, Stapleford.

8828 (1904). Pneumatic tire with special tread. W. Drury, Swansea, and F. H. Medhurst, London.

8893 (1904). Means of attaching solid rubber tires. I. Guist, Puyrichard, France.

8900 (1904). Pneumatic motor tire with thickened and wire protected tread. A. von Lüde, Frankfort o/M., Germany.

* 8928 (1904). Pneumatic tire protected by removable puncture proof mesh of wire. J. L. Brown and B. King, Rahway, New Jersey.

9047 (1904). Solid rubber tire with means for the prevention of slipping. T. Gare, New Brighton.

9079 (1904). Artificial foot with cushions and other parts of rubber.

9188 (1904). Solid rubber tire for motors [with metal chain fitted in a trough formed in the tread to form a non skidding wearing surface].

[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 16, 1905.]

9233 (1904). Pneumatic tire for motors [having a cover formed with two treads, side by side, to prevent skidding]. F. Reddaway, Manchester.

9301 (1904). Spray producers [for vines or trees]. A. F. Billa, St. Julien de Medoc, France.

9321 (1904). Valve for pneumatic tire. H Nemerovsky, Manchester.

9330 (1904). Golf ball. S. de Pont, Manchester.

* 9333 (1904). Vehicle wheel [having an inner and an outer rim with metallic springs or pneumatic rubber sections between]. A. Cousen, Detroit, Michigan.

9400 (1904). Pneumatic tire. H. W. Hepburn, Birkdale.

9432 (1904). Hot water bottle. [A textile bag, lined with sheet asbestos on the side remote from the person, is made with pockets to receive the rubber hot water containers.] R. W. Sampson, Quebec, Canada.

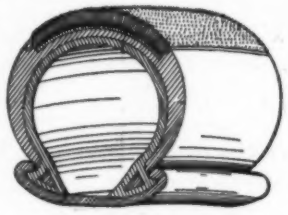
9504 (1904.) Artificial leg [comprising parts of sponge rubber and elastic webbing]. R. E. Daniels, Rochdale.

* 9510 (1904). Narrow elastic fabric for suspenders, garters, and the like. H. J. Gaisnan, New York.

9607 (1904). Abdominal belt. J. P. Hodgkinson, Manchester.

9631 (1904). Elastic tire [formed of alternate layers of rubber and corrugated metal bands]. A. Lafargue, London.

9644 (1904). Pneumatic tire [protected against slipping by a band detachable or otherwise from which protrudes a series of wires, bristles, or the like, the intercises being partially filled with a suitable composition]. W. Youlden, London.



9644 (1904).

[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 23, 1905.]

9773 (1904). Golf ball [formed by winding elastic cords which are previously plaited or twisted]. Rollo Appleyard, Silvertown rubber works, London.

* 9931 (1904). Pneumatic tire [the cover being attached to the rim by metal eyelets]. R. H. Croninger, Chicago.

* 10,175 (1904). Vaginal syringe. H. J. Haddan, London. (Meinecke & Co., New York.)

10,179 (1904). Device for cleaning carpets by means of compressed air. J. P. O'Donnell and H. S. Potter, Bromley, Kent.

[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 30, 1905.]

10,274 (1905). Elastic wheel [having a pneumatic tube between the hub and rim portion]. E. F. Piers, Horsham, Sussex.

10,277 (1904). Pneumatic tire [with detachable rubber or leather tread to prevent slipping or puncture]. C. Dutordoir, Lécluse, France.

10,315 (1904). Pneumatic or other elastic tire [having a tread concave in section to prevent slipping]. A. Pearse, London.

10,432 (1904). Pneumatic tire [with cover strengthened by embedded strands of wire or hemp]. J. McConechy, Glasgow.

10,442 (1904). Elastic tire [composed of a backing of hard rubber vulcanized to a more elastic tread]. John Hancock Nunn, London.

PATENTS APPLIED FOR—1905.

Space is given here only to Applications for Patents on Inventions from the United States.

15,826. Philip Watson Pratt, London. Improvements in rubber treads. August 2.

16,016 (1904). W. P. Thompson, London. Improvements relating to rubber goods. (The Traun Rubber Co., New York.) August 4.

16,654 (1904). R. Mulholland, London. Improvement in rubber tire. August 16.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

351,687 (Feb. 22, 1905). F. J. Masson. Anti-skidding device for tires.

351,736 (Feb. 23). Dutrieux Lamelin. Tire protector for anti skidding.

351,761 (Feb. 13). A. E. Fisher. Device for inflating tires.

351,910 (March 1). J. B. L. Eeyssou Lacombe. Protector for horses' feet.

351,924 (March 1). G. P. L. Colon. Elastic product to be used in connection with wheel felloes.

351,932 (March 2). Otto and Riccardson. Elastic tire with tread studded with nails vulcanized in position.

351,648 (Jan. 9). E. Abadie Leotard. Hock-strap with adjustable fastening.

352,020 (March 3). C. E. Lange. Tire inner tube.

352,037 (March 4). Société Consolidated Rubber Tire Co. Tire.

352,067 (March 6). C. L. Marshall. Shoe for pneumatic tire.

352,093 (Feb. 6). A. Parouty. Pneumatic tire.

352,130 (March 6). A. Ménégault. Anti skidding device for pneumatic tires.

352,199 (March 8). E. Sotron. Elastic tired wheel.

352,384 (Feb. 14). H. E. Sykes. Improvement in the weaving of elastic stuffs.

352,216 (March 9). G. Bedos. Leather anti skidding tread for pneumatic tires.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Counseil, 16 avenue de Villiers, Paris, at 50 cents each, post paid.]

VACUUM AND COMPRESSED AIR CLEANING IN NEW YORK.

By Frank L. Blanchard.

AS I left the house one evening I heard the "chug," "chug," "chug" of an engine. At first I thought that firemen were at work putting out a blaze somewhere in the vicinity, but as I had heard no clanging of bells or tooting of whistles, and as the streets contained no crowds, I concluded I must be mistaken.

Nevertheless I asked a policeman on the corner about it, and he informed me that the sounds came from a machine in front of the Academy of Music, in Irving place. So I walked around the block and found a ram like vehicle of the automobile type from which proceeded the sounds I had heard. Running from the car into the theater were two lines of rubber hose. The man in charge told me that the apparatus was engaged in cleaning the walls and carpets of the Academy by the vacuum process.

Being somewhat curious to see how the work was done, I went inside, where I found two men engaged in pushing over the carpet T shaped implements attached to lines of rubber hose. I noticed that after these had been moved back and forth over the floor a few times the colors in the carpet became much brighter.

MODERN CARPET CLEANING.
[By the Vacuum Cleaner Co.'s process.]

But what had become of the dust with which the carpet had been saturated a few moments before? It certainly had not been blown up into the air, for my nostrils would have detected its presence immediately even though my eyes did not. When I asked one of the workmen about it he held up the instrument he was using and showed me a narrow slit extending across its entire width. I touched it and found that my fingers were pulled against the orifice with considerable force. Noting my surprise the man said:

"The dust is drawn out of the carpet by the vacuum or suction process and is carried through the rubber hose to receptacles in the car outside. While the pressure is only a few pounds it is sufficiently great to draw the dust not only from the carpet, but also from the surface and crevices of the floor underneath. After we have finished with the carpets, we will attach a flat brush to the hose and go over the side walls and the moldings. For the *bas reliefs* and statuary we use a round brush.

The ease with which the cleaning was done was in marked contrast to the old methods of performing such work. Formerly the floor coverings had to be taken up, separated into convenient widths for handling, and carted off to a steam cleaning establishment. After being run through the renovators the strips were taken back to the theater, sewn together, and again tacked down—all of which consumed much time and cost considerable money.

There are at present several vacuum or compressed air companies in the field engaged in the renovating business, whose work has attracted attention. Among them are the Vacuum Cleaner Co., the Sanitary Compressed Air Vacuum Co., the General Compressed Air House Cleaning Co., and the American Compressed Air Cleaning Co.

Of these the Vacuum Cleaner Co., which is probably the largest, owns the David T. Kenney patents. William Locke, the engineer of the company, before explaining to me the process employed, showed me what it will do. He sprinkled a quantity of flour over the carpet of his office and rubbed it into nap with his feet. He then pushed the renovator across the floor once or twice and in a moment not a vestige of the flour could be seen.

"You would be surprised," he said, "to see the amount of dust that can be extracted from a rug or carpet by this process. A somewhat skeptical architect was present one day when we cleaned a large rug he had sent us. After we had extracted 18 pounds of dust he was so astonished at the effectiveness of the porcess that he gave us a contract for the installation of a large plant in a new public building he was erecting.

"Our apparatus consists of an engine or motor, a vacuum machine, and two separators for receiving and separating the dust. We have installed permanent plants in the department stores of R. H. Macy & Co. and John Wanamaker; in the Metropolitan Opera House, Keith's, Proctor's and the Knickerbocker theaters; in the Hotels St. Regis and Breslin; in the National Park Bank and the American Exchange National Bank buildings, and in the private residences of Miss Helen Gould, Charles M. Schwab, Senator W. A. Clark, and others.

"You can readily understand what a job it must be in these large buildings to clean the floors and carpets of dust each day. To do the work a small army of men and women is employed. Sweeping a carpet with a broom removes only a part of the dust, the remainder being left in the body, or in the air from which it settles on the walls, the furniture, and other objects in the room until it is dislodged by the dust rag and sent flying in the air again.

"With a vacuum cleaning plant the work can be performed in half the time by only a few employés. The dust is absolutely removed from every object in the apartment and the air is left entirely free of the substance. The vacuum rubber hose used is non collapsible, being supported by steel wire construction, and yet is perfectly flexible in handling. In a permanent plant outlets from the stationary piping are located at convenient places on each floor to which the rubber hose, which has a diameter of 1½ inches, may readily be attached when desired. The separator tanks that receive the dust through the hose consist of two upright cylinders. The first separates from the air current the dust in dry deposit; while the second completes the process of separation by passing the air current through a column of water in which the remaining matter is held in liquid suspension."

The Sanitary Compressed Air Vacuum Co., which has an office in the "Flatiron" building, employs a system that combines the vacuum and compressed air processes under what are known as the Lotz patents. John D. Elwell, the general manager of the company, in outlining the differences between the vacuum and the compressed air-vacuum methods of cleaning, said:

"Our process requires the use of more power because the slot in our carpet sweeper is much wider and the rubber hose of a larger diameter. While from 8 to 20 horse-power is used, according to the size of the plant, in the vacuum system, in ours, which we call the inrush, from 8 to 40 is required. A vacuum is like a rope, good to pull with, but no good to push with. We do the pushing part with compressed air. That is, we use it to dislodge the dust from the carpet and the floor underneath, and employ the vacuum to remove it. Two lines of hose are connected with the sweeper. One contains the compressed air, and the other being attached to the vacuum machine serves as a conduit for removing the dust.

"The effectiveness of the system is easily demonstrated. One of our twelve inch sweepers in 1¾ hours removed 42 pints or 21 quarts of dust from 560 yards of carpet. It would require 14 men working with brooms to get this amount of dust out of the carpet and when they were through nearly half of it would be floating in the air. A 12 inch vacuum sweeper has a cleaning capacity of 400 yards of carpet an hour, or, in actual practice, from 10 to 15 large rooms.

"It is extremely difficult to remove the dust from the carved ornaments of the decorations in some of New York's palaces. It is a very expensive process, too. Whenever the ceiling and walls of the parlor of the Vanderbilt house at Fifty-eighth street and Fifth avenue were systematically dusted, it was formerly necessary to build a scaffold and have the dust carefully removed by soft brushes, at an average cost of $300. When we were called on to do the work we completed the task at a total cost of $25.

"Our process of cleaning is in use in the Chamber of Commerce, W. & J. Sloane's store, the Vanderbilt, Huntington, and Sterns houses and several theaters, including the Academy of Music."

When the Hotel Astor was erected two years ago, the General Compressed Air House Cleaning Co., of St. Louis, installed one of its plants in the building. This company owns the Thurman patents, which are regarded by some engineers as among the best for pneumatic cleaning yet taken out. Under the system employed by the company compressed air is used to lift the dust out of the carpet instead of a vacuum. The piping of permanent plants is from ¾ to 1 inch in diameter, and the flexible rubber hose of a corresponding size. The sweeper is T shaped and much resembles that employed in the vacuum process. The dust instead of being carried off through a pipe to the basement is collected in receptacles on each floor where the cleaning is being done. The engineer and housekeeper of the Hotel Astor express themselves as being much pleased with the system.

At the Hotel Victoria still another system is in use—that of the American Compressed Air Cleaning Co., of Milwaukee. Compressed air is delivered to the several floors of the hotel in steel pipes, where connection is made with a rubber hose as in all the other methods of pneumatic cleaning. The sweeper is a nickel plated box about 14 inches long, 10 inches wide, and 5 inches deep. In the bottom is a very narrow slit through which the compressed air is driven into the carpet. The dust being forced out rises into a hood spread over the top of the box and then falls into the box itself from whence it is removed and placed in bags. As condensed air naturally contains more moisture than ordinary air, and as it would in that condition make the carpet damp and prevent the dust from being forced out of it, it is first passed through several large tanks and nearly all of the moisture removed, before being used. In order that it may be made still dryer the air is sometimes passed through a portable drying tank on the floor where the work is being performed. A pressure of 85 pounds is used. The engineer of the Victoria, Mr. G. McDoal, informed me that although the hall carpets had been swept every day for several months before the new cleaning apparatus was installed, nevertheless the first night the new system was used, three ash cans filled with dust was removed from them.

A list of the buildings equipped with permanent apparatus for cleaning by the various systems here described would fill several columns of this paper, besides which it is to be considered that a larger number of buildings are regularly served by the cleaning companies by means of portable apparatus. The White House at Washington is equipped with a permanent service, as are the residences of many wealthy citizens in New York and other principal cities, together with some of the largest hotels, banks, office buildings, public buildings, churches, theaters, railroad terminals, and even steamships. Nor is the use of these methods for cleaning confined to the United States. The different systems are coming into wide use in Europe. For instance, in Buckingham Palace, the home of King Edward, has been established a complete vacuum service which is in daily use.

* * *

AT the second annual meeting of the British Vacuum Cleaner Co., Limited, in London, in August, satisfactory reports were presented in regard to progress made by the company in introducing their system of cleaning, which is the same as used by the Vacuum Cleaner Co. in the United States. A dividend of 6 per cent. for the year was declared. The company hold shares in a number of subsidiary companies, and at the meeting referred to dividends were reported to have been declared dur-

PORTABLE PLANT OF THE VACUUM CLEANER CO.

ing the year by some of the subsidiary companies as follows:

Scottish Vacuum Cleaner Co.	17½%
Lancashire and Central Counties Vacuum Cleaner Co.	10%
Midland Vacuum Cleaner Co.	5%
Southern Counties Vacuum Cleaner Co (*interim*). [A further 2½ per cent. dividend expected.]	5%
North Eastern Vacuum Cleaner Co.	No report.
German company.	10%
Austrian company.	No distribution.
Buenos Aires company.	6%

An interesting new application of the principle of cleaning by vacuum was brought up at the meeting of the British Vacuum Cleaner Co., in the shape of an apparatus patented by the company's manager (Mr. H. C. Booth, A. M. I. C. E.), designed to lessen the danger of explosion in coal mines by reducing the volume of explosive dust in them. A royal commission had reported that the occurrence of such dust had been the cause of very many explosions. The North Eastern Vacuum Cleaner Co. were about to put down a plant under Mr. Booth's patent in a mine, the owner of which had stated that if it proved successful he would at once install the device in all his plants; besides, if it proved successful, all the other companies would at once take up the invention. Another application mentioned was a device for cleaning flues and steam boilers, and plans were under way for its use in connection with blast furnaces and other like work.

OBITUARY.

JOSEPH WEST GREEN.

THE late Joseph W. Green, of whom a brief obituary note appeared in the last INDIA RUBBER WORLD, was born August 23, 1848, at Marblehead, Massachusetts, being the son of Joseph West and Abbie Girdler Green. He received but little schooling, being obliged to begin work at 12 years, and as a boy taking responsibilities that seldom come to one so young. At the age of 18 he entered the employment of Nichols & Farnsworth, dealers in shoe findings, in Boston, and remained with the house for 12 years, during which time he came to make a specialty of selling elastic shoe gorings.

In this connection he attracted the attention of the late Edmund H. Sawyer, of Easthampton, Mass., and when the management of the Glendale Elastic Fabrics Co. of that town devolved upon the latter, he sent for Mr. Green. He went to Easthampton in 1878, at the age of 30 years, becoming treasurer and general manager of the company, after which he was always in the immediate direction of its affairs. Under his management the company prospered and its business grew in volume and importance. Not only were important additions made to the local plant from time to time, but a year or two ago a large mill in the same industry at Providence, Rhode Island, was bought by the Glendale company and since successfully operated by it.

While always devoted to the success of this industry and interested in the welfare of its employés, Mr. Green found time to take an active part in the life of Easthampton apart from his direct business interests. He was influential in town affairs, and at the time of his death was chairman of the board of water commissioners. He was a director of the First National Bank of Easthampton, trustee of the Easthampton Savings Bank, and director of the Nashawannock Manufacturing Co. He was a member of Ionic Lodge of Freemasons, a member of Pascommuck Club, the leading social club in the town, and secretary of the Nonotuck Club, an association of manufacturers formed to provide recreation primarily for those of the townspeople who were employed in the mills. He was likewise a trustee of the public library.

Mr. Green had a great talent for music, which he cultivated from his youth. In Boston he had been a member of the famous Apollo and Orpheus musical clubs and was leader of the Sunday school choir in Trinity church and an intimate friend of the late Bishop Phillips Brooks, who had a marked influence in forming the character of the younger man. At Easthampton at various times Mr. Green led the choir and played the organ in three different churches, and he led the Choral Union for several seasons.

Mr. Green was married in Boston, September 30, 1889, to Mrs. James H. C. Richmond, of Shullsburg, Wisconsin. Mrs. Green survives him, and he leaves four stepsons and a stepdaughter, including James H. C. Richmond, of New York, and Clifford Richmond, of Easthampton, who have long been connected with the Glendale company, and Mrs. William L. Pitcher, whose husband is connected with the Easthampton Rubber Thread Co.

Mr. Green had been physically weak for some time, and in the torrid heat of July last made business trips that were too great a strain. The result was a series of severe hemorrhages, and the end came shortly after midnight on August 28. The funeral occurred on August 30. After private services at the late residence, the remains were escorted to Payson church by Ionic Lodge and the whole body of the Glendale company's employés, after which the pastors of the various churches in town joined in a public service. Many of Mr. Green's out of town business associates were present, and all the places of business with which he been connected were closed.

The employés of the Glendale mill have taken steps to have placed upon the wall a bronze tablet in memory of Mr. Green, not only as treasurer and manager of the mill, but their "fellow workman."

* * *

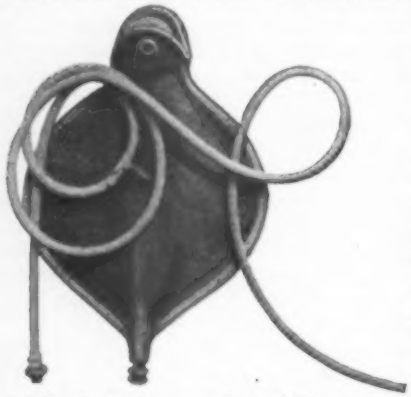
JOHN SPENCER TURNER, director and vice president of the United States Cotton Duck Corporation and head of the J. Spencer Turner Co., of New York, died of apoplexy on September 19 at Caldwell, New Jersey, in his seventy-fifth year. He was one of the best known men in the cotton duck trade and was instrumental in organizing the so called "cotton duck trust." His home was in Brooklyn.

JAPAN.—The Fujikura Insulated Wire and Rubber Co. (Tokio, Japan) advise THE INDIA RUBBER WORLD that their business during the first half of this year was very good, their sales of weatherproof wire amounting in value to 90,000 yen [=$43,920], and sales of rubber insulated wire to 160,000 yen [=$79,680]. They hoped to do a still larger business during the latter half of the year.

NEW GOODS AND SPECIALTIES IN RUBBER.

GOODRICH SURGEONS' SYRINGE OUTFIT.

IN the line of syringes the most distinctive novelty placed on the market for some time past is comprised in the Surgeons' Syringe Outfit, of which an illustration is presented herewith. This is made of pure gum, with reinforced strip up the center. The stock and construction admit of its being folded up into a very small space, rendering it not only serviceable but convenient to carry. The outfit includes, in addition to the bag, 6 feet of pure gum tubing, with connections and shut-off. The bag is made in two quart, three quart, and four quart sizes, and is altogether a strictly high grade article. [The B. F. Goodrich Co., Akron, Ohio.]

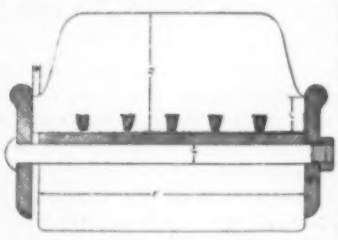


DR. TULLAR'S VAGINAL SPRAY.

THE article illustrated herewith being made entirely of hard and soft rubber, of high quality and finish, and no metal being used in its construction, there is nothing about it to corrode. The hollow-cup shaped spray differs from any other, and possesses distinctive advantages, as does the oval shaped adjustable rubber shield or vaginal closing plug. The discharge pipe is of moderate size, with no hurtful sharp edged outlets. The bulb, being pear shaped, with a soft neck, holds the pipe less rigidly than in the case of many other syringes, and the capacity of the Tullar syringe—9 ounces—is such that one filling is enough for a safe, perfect, and efficient douche. These various advantages will serve to explain the great popularity which the Tullar syringe has attained. [Seamless Rubber Co., New Haven, Connecticut.]

A NEW KELLY-SPRINGFIELD TIRE FEATURE.

A NEW feature in the way of retaining rings for solid rubber vehicle tires is shown in the accompanying illustration. One great trouble with tires of this type for heavy work, as on commercial wagons, has always been with the fastenings. In the present case steel V shaped retaining rings, wrapped spirally with canvas to which the rubber vulcanizes, thus giving a hold complete around the ring, are inserted in the base of the rubber, and, bearing directly on the band of the wheel, eliminate eternal friction. To make the fastening means still more secure, the rubber section is made somewhat wider than the steel base or rim, and compressed by the side flanges which are drawn up by bolts. Owing to the V shape of the retaining rings the tire is then practically dovetailed to the wheel, and thus held very securely. The tire is made in width up to 7 inches. [Consolidated Rubber Tire Co., No. 1784 Broadway, New York.]

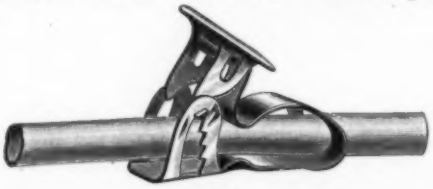


TROUSER ROBE FOR MOTORISTS.

IN these pages last month appeared a description of a new trouser robe for motorists, made to buckle around the waist and ankles and designed to keep off the wind, in addition to its other advantages. An illustration of this robe was given, but a better idea of the merit of the article may be gained from another illustration, which is presented herewith, showing how the garment appears when in use. This is made of various materials, at different prices, ranging from plain rubber face, with shepherd plaid back, to fine green cloth, face woven whipcord back, rubber interlined. [L. C. Chase & Co., Boston and New York.]

AN ADJUSTABLE FOUNTAIN SYRINGE SHUT-OFF.

A SUITABLE "shut-off" is essential to the satisfactory use of a fountain syringe—one that not only will do the work required of it in regulating the flow of water through the tube, but is easily worked. Such a device is that recently patented by Elbert O. Jeralds, of which two illustrations are shown herewith, showing the Shut-off open and closed. It is exceedingly simple in construction, the shut-off proper being stamped from a single piece of high nickel plate, while the lever, by means of which the pressure is controlled, is made from another. In other words, the whole device consists of but two pieces, and



OPEN.

CLOSED.

may readily be worked with one hand. This shut-off, although introduced only recently, is understood to have been adopted

already by leading manufacturers of druggists' sundries, and by a number of assemblers of such goods, besides having received the approval of many physicians, nurses, and others competent to express an opinion. These goods are made in two styles—No. 1, rapid flow; and No. 2, regular flow. [The Jeralds & Townsend Manufacturing Co., Stamford, Connecticut.]

THE "HANDY" TOBACCO POUCH.

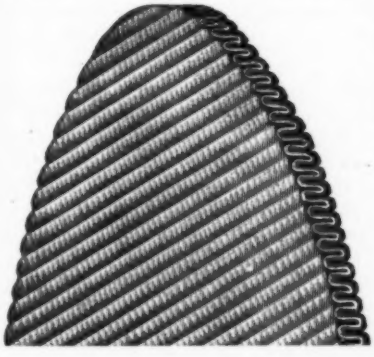
A NOVELTY in the line of tobacco pouches is shown herewith. Instead of being circular in shape, as has been the case with tobacco pouches hitherto, it is rectangular, the reason being that it is intended especially as a plug tobacco container. It is made of a fine quality of red rubber stock—in one size—3¼ × 2½ × ⅝ inch. [The B. F. Goodrich Co., Akron, Ohio.]

GOODRICH THREE FINGER GLOVE.

THIS is an article made for surgeons' use, to cover the thumb and index and middle fingers, and has been very much appreciated for use in certain operations. It is made of pure gum, in sizes No. 6 to No. 10 inclusive, seamless, and smooth finish, listed at $12 per dozen pairs. [The B. F. Goodrich Co., Akron, Ohio.]

FOSTER CRIMPED FIBER SOLE.

TWO illustrations presented herewith relate to the Foster plaited or crimped fiber sole, which has recently been patented. The first of the cuts illustrates the construction of the plug material and the second its insertion into the sole of the golf, tennis, yachting, or other shoe. From the first of the cuts it will be seen how each and every wearing thread is bent in such a manner as to give the wear on each end of the thread.



The advantages of molding this special fiber so constructed and saturated with rubber into the soles of boots and shoes are that greater strength, greater flexibility, and greater elasticity are given to the soles, with less liability to slip on dry grass or wet sidewalks; besides, they wear longer and give a velvet tread while in use. [Foster Rubber Co., Boston.]

THE RETURN OF MR. FLINT.

MR. CHARLES R. FLINT arrived at home in New York no September 5, after an absence of several months in Europe, during which time he was mentioned in several cabled reports as being in Russia. He was received in audience by the Czar on August 25, and returns impressed with the prospects of an improved industrial future for Russia. "I feel confident," Mr. Flint said, "now that peace is assured, that Russia is about to enter upon a period of great industrial activity, and I am satisfied that her policy is to encourage Americans to take part in the development of her enormous natural resources, comparable with those of the United States. Russia will undoubtedly reduce the duties on American products, which will probably be the first step in that direction." This statement was made by Mr. Flint in an interview with him printed in the New York newspapers of September 6, several days after which M. Witte, one of the Russian peace plenipotentiaries, called upon President Roosevelt and formally notified him that the Czar had ordered a removal of the special duties on imports from the United States imposed in Russia.——Before the departure of M. Witte for his home the Russian plenipotentiaries were entertained at dinner at the Metropolitan Club in New York by Colonel George Harvey, editor of *Harper's Weekly*. Mr. Flint was one of the 80 guests, and figured in a series of cartoons suggested by the dinner to Charles de Fornaro, one of the artists of the New York *World*, and which appeared in the issue of that paper for September 10. The accompanying cut indicates how Mr. Flint appeared to the cartoonist.

Charles R. Flint. Gen. Horace Porter.

"Have you got an indemnity about you?" asked Gen. Porter.

[CARTOON BY C. DE FORNARO IN NEW YORK "WORLD."]

BALATA.—The government of Venezuela having taken measures to prevent the reckless destruction of the Balata trees in that country, *Le Caoutchouc et la Gutta-Percha* (Paris) doubts whether any such prohibition will measurably prevent the practices complained of; at least the spoliation of the forests, it thinks, will at most only be retarded.

RUBBER INTERESTS IN EUROPE.

STRIKE OF RUBBER WORKERS AT LEIPZIG.

THE strike of rubber workers at Leipzig, after some weeks, was still in progress at last accounts. Beginning with the hard rubber workers, it had extended until a number of workers in soft rubber were included. While the strikers at their meetings claimed to be holding their own, the employers, on the other hand, claimed to be able to maintain their determination not to grant the advance in wages asked for, on the ground that in view of the high prices of raw materials the payment of higher wages was absolutely impossible. The manufacturers had refused to enter into any discussion of the other demands of the labor union, on the ground that their acceptance would mean loss of control of the factories by their owners. One report states that the manufacturers have stocks of goods of such dimensions as to render it unnecessary to produce any more for a considerable time to come, and that even if orders should go unfilled the manufacturers would shed few tears, on account of the small profits realizable on rubber goods at this time.

DUNLOP PNEUMATIC TYRE CO., LIMITED.

THE directors of this company, in calling an extraordinary meeting of the shareholders in London for September 14, stated that they wished to lay before them the position of the company in its manufacturing aspect. The last annual report, issued in November last, stated that the number of tires manufactured in the company's works during the year had reached the total of 1,556,220, which "represents an enormous increase as compared with any previous year and far surpasses the output of any firm in the world." The position of the company now, it is asserted, is that this large output has not only been maintained but greatly exceeded during the current season, and that the company has been obliged to allow a large number of orders in the motor tire department to pass unexecuted. The directors now desire to erect another completely equipped factory as speedily as possible, and the meeting was called for the consideration of this point and its bearing upon the proposed reorganization of the company. The royalties which the company previously received lapsed with the patents, in 1904, and the price of tires for the current season was substantially reduced. Yet the chairman stated at the meeting that their dividend promised to be larger this year than last year. The plan outlined for securing the additional factory—to cost £50,000—is to suspend for one year the diversion of the customary amount to the sinking fund maintained to retire the company's debentures at their maturity. It was reported that a large number of assents had been secured to the plan of reorganization, but definite action was postponed until the sentiment of the various classes of shareholders could be more clearly ascertained. Chairman DuCros said that in addition to their larger tire production than ever before, their factories had made this year 400,000 rims and more than 2,000,000 valves. The company had large hopes in respect of the demand for motor 'bus tires.

GREAT BRITAIN.

IN the bankruptcy court at St. Albans, England, on August 22, A. Vaughan Stevens, of Harpenden, appeared for his public examination, a report of which at length appears in *The Herts Advertiser*. His statement disclosed liabilities of £3417 9s. and no assets. Nine years ago he became director of Bourne Brothers & Co., Limited, owning six-tenths of their capital of £10,000. Subsequently he conducted business as Bourne Brothers & Co., trustee for the limited company, and lately he had been rendering services, without specified compensation, for A. C. Baber, sole owner of the capital of the reorganized Bourne Brothers & Co., Limited, and trading as A. C. Baber & Co., rubber manufacturers, at Mansion House Chambers, E. C., London. Mr. Stevens attributed his insolvency to the failure of Messrs. Bourne, Limited. For one thing, he had endorsed their bills to John Lang, a London rubber merchant, and Mr. Lang was one of the creditors who appeared in the proceedings against Stevens. The latter testified that the business of the Bourne company was chiefly making rings and screw stoppers for bottles, of rubber and another material, under a secret not patented and known only to Stevens.

FRANCE.

AT St. Claude, in the department of the Jura, a new works is being erected for the exclusive manufacture of hard rubber, by a joint stock company, organized in January of the present year, with a capital of 600,000 francs [=$115,800]. Hermann Wezel, of Grosswenden, Saxony, was elected managing director, and the buildings as well as the technical installation are being constructed in conformity with his specifications. The firm expect to commence operations by January next.

GERMANY.

THE board of Vereinigte Gummiwaren-Fabriken Harburg-Wien have decided to make a motion, at the general meeting which is to be called for October 28, for declaring a dividend of 12½ per cent., the same amount as last year. This comparatively satisfactory result, says *Gummi-Zeitung*, has been obtained both by the increase in sales and by the participation of the company in the Internationale Galalith-Gesellschaft Hoff & Co., which is showing a most satisfactory development. A full report on the company's interest in Galalith appeared in THE INDIA RUBBER WORLD February 1, 1905—page 155.

RUBBER BOTTLE STOPPERS IN GERMANY.

[FROM "GUMMI ZEITUNG," SEPTEMBER 8.]

A NEW movement against rubber stoppers for bottles has been inaugurated by the manufacturers of cork stoppers, who, after having prepared their campaign, are now evidently advancing to the fight. They are, in fact, distributing circulars, in which they refer to the "discovery" of Dr. Pond concerning the "infallibly mortal effects of the use of rubber bottle stoppers," and they make the following statement:

"The time has apparently come when the authorities involved in the matter, such as the police departments and especially the Imperial department of health of the German empire, must enter upon a thorough consideration of the question, whether the use of such patented bottle stoppers as are deleterious to health shall in future continue to be allowed. Government tests appear to be a preëminent requirement." Manufacturers of rubber stoppers will undoubtedly have no objection to truly scientific tests, as they would only serve to prove the absolute fallacy of Dr. Pond's contentions.

If the cork stopper manufacturers believe, however, that the "prohibition" of the use of red rubber discs for bottle stoppers would tend to remove all patented rubber stoppers in general from the market, they commit a very serious error. The result would simply be that common sulphur would be used for vulcanizing, instead of golden sulphuret of antimony, and that *grey* or *black* rubber discs would be supplied for bottle stoppers. The red color of these discs is, in fact, merely a matter of style or taste, and their abolition would leave the cork stopper manufacturers no ground to stand on in their stubborn agitation against rubber stoppers. It would, in fact, be impossible to abolish the use of rubber stoppers, as they occupy by this time too prominent a place among our daily necessities.

NEWS OF THE AMERICAN RUBBER TRADE.

THE "GOODYEAR GLOVE" FACTORY ENLARGED.

THE Goodyear's India Rubber Glove Manufacturing Co. (Naugatuck, Connecticut) are building an addition to their druggists' sundries department, which Superintendent F. F. Schaffer states will enable the company to double their present output in this line. Early in August the company began using a new addition to their shoe mill, that will permit the production of 10,000 pairs more per day.

THE FIRESTONE TIRE AND RUBBER CO.—ADDITIONS.

IMPORTANT additions are being made to the plant of the Firestone Tire and Rubber Co. (Akron, Ohio), to accommodate two projected new features in their business. The company are about to take on the manufacture of pneumatic motor tires, having acquired a patent granted to Theron R. Palmer, whose tire has been considerably improved since the granting of the patent. The company also plan entering upon the manufacture of mechanical rubber goods. The floor space of the factory will be doubled in size by the new addition, and the present capacity practically doubled. One building, to be one story high and 40×100 feet, will be used as a warehouse. Another, to be four stories 90×100 feet, will be used for various manufacturing processes.

THE B. F. GOODRICH CO.—SHOE DEPARTMENT.

THE manufacture of rubber boots and shoes was begun regularly by The B. F. Goodrich Co. (Akron) on September 18. The work was on a small scale, and devoted to the production of samples, but it was intended to begin on a much larger scale about October 1. The machinery was practically all installed and a number of trained workmen were in place as instructors in the various processes of making rubber footwear. Superintendent E. C. Shaw informed the representative of THE INDIA RUBBER WORLD that the capacity of the boot and shoe department as now constituted would be 5000 or 6000 pairs a day.

THE FISK RUBBER CO.

THE company above named have lately awarded a contract for a large addition to their rubber tire factory at Chicopee Falls, Massachusetts, to cost in the neighborhood of $30,000. It will be a three story brick building, 45 × 112 feet, with an "L" construction forming an additional building 40 feet square. One floor of the new building will be used for storage for rubber fabrics and the others for the manufacture of bicycle tires only, which will leave the main factory devoted solely to the manufacture of the Fisk mechanically fastened automobile tire. Kirkham & Parlett, of Springfield, are architects of the new building.

NEW HAMPSHIRE'S FIRST RUBBER STORE.

THE invitations which were issued for the opening of the store of the Granite State Rubber Co. (Manchester, New Hampshire), on September 9 were accepted by a large number of people, the store being crowded until late in the evening. Not only is it the first rubber goods store to be opened in the state, but the opening was advertised in an attractive way, the officers of the company having become experienced, through their management of the four "Crocker rubber stores" elsewhere, in gaining the attention of the public. A fine orchestra furnished a concert in the afternoon and another in the evening. Twenty-five rubber plants were offered as prizes to the ladies attending the opening who should guess nearest the amount of cash sales for that day. Besides, souvenirs were given to everybody who visited the store. Mr. Isaac Crocker, the treasurer of the new company, has been identified with the rubber trade in New England for 35 years. Mr. H. L. Cropsey, the president, has been connected for a long time with the Hope Rubber Co., the Providence, Rhode Island, house in the Crocker chain of rubber stores.

THE DIAMOND RUBBER CO.'S CONFERENCE.

A CONFERENCE of the officers and branch managers of The Diamond Rubber Co. (Akron, Ohio) on September 8 and 9. The object of the meeting was the same as that held every year —to plan the company's business campaign for the coming twelve months. Good reports were made from every quarter, giving the company reason to be satisfied with the outlook. One feature of interest is the increasing use of automobiles, and consequently of pneumatic tires, in the South, where machines can be used all year. It is understood that no marked change is to be made in the company's styles of pneumatic tires. Branch managers were present from New York, Boston, Philadelphia, Buffalo, Cleveland, Detroit, Minneapolis, Chicago, St. Louis, Atlanta, and San Francisco.

THE SWEET TIRE AND RUBBER CO.

AT the annual meeting at Batavia, New York, on August 23, the following directors were elected: John H. Ward, Ashton W. Caney, and George E. Perrin, all of Batavia, and A. A. Smith and Lewis Benedict, of Attica, N. Y. The only change from last year is that Mr. Smith succeeds John M. Sweet. The directors reëlected the officers, as follows: John H. Ward, president; A. W. Caney, vice president; George E. Perrin, secretary and treasurer.

BAILEY'S "WON'T SLIP" TIRES.

C. J. BAILEY & CO. (Boston) have issued a license for the manufacture of their "Won't Slip" motor tire treads to Morgan & Wright, in addition to the six important rubber factories already making these treads under license. It is stated that the demand for these treads has become so great that the manufacturers are unable to supply it. Messrs. Bailey & Co. have received a letter from F. R. Tibbitts, of Boston, stating that he has used a set of "Won't Slip" treads for over a year, in which time his 28 HP. motor, weighing 2500 pounds, has run over 9000 miles. One tread having been slightly punctured, he is sending it for repairs, with the idea that it will be good for another 1000 or 2000 miles running.

RUBBER AT A CANADIAN EXHIBITION.

THE rubber industry of Ontario was very thoroughly represented at the Canadian National Exhibition, at Toronto, which closed during the first week in September. The number of exhibitors was greater than at any time in the past, and the number and variety of exhibits correspondingly greater. Displays were made by the Gutta-Percha and Rubber Manufacturing Co. of Toronto, Limited, the Dunlop Tire Co., Limited, and the Ontario Rubber Co., of Toronto; the Merchants' Rubber Co., Limited, of Berlin, and the Berlin Rubber Manufacturing Co., Limited.

THE COLONIAL TIRE AND RUBBER CO.

[See THE INDIA RUBBER WORLD, March 1, 1905—page 207.]

THIS company was incorporated September 2, 1905, under the laws of Ohio, with headquarters at Akron, to succeed the Delaware corporation under the same name, of 1902. The in-

corporators are William A. Byrider, John Byrider, James A. Swinehart, P. D. Hall, and C. T. Grant—all of Akron. The capital is $6000, instead of $60,000, as under the old charter. This company is a holding company, owning the foreign patents on the Swinehart "side wire" tire, made in the United States under royalty by The B. F. Goodrich Co., The Diamond Rubber Co., and the Firestone Tire and Rubber Co., and in Europe by a number of leading makers, from whom the Colonial company derive royalties.

ALLING RUBBER STORES SYNDICATE.

UNDER the name The Alling Rubber Co., a rubber goods store is to be opened about October 1 at No. 261 Main street, Springfield, Massachusetts, in charge of Mr. F. C. Hubbell, who has been connected with the stores of The Alling Rubber Co. at Bridgeport and Hartford, Connecticut, for two years past.

NOYES E. ALLING.

This makes the tenth rubber goods store conducted by the Alling interests, the first nine being located in Connecticut. The beginning of this interesting and unique chain of stores dates from September, 1890, when Noyes E. Alling, who for several years had been a traveling salesman in the rubber clothing line, established a store at Norwich, Connecticut, for the sale of rubber goods generally. In the next year his brother, W. S. Alling, became a partner in this store, and in May, 1895, he purchased the entire interest in the store. Later that year Noyes E. Alling acquired and consolidated two rubber goods stores at Bridgeport and the business has since been conducted under the name The Alling Rubber Co., a corporation, which has since opened several branch stores. It may be of interest to give the whole list of the Alling stores, with the ownership and date of establishment:

Alling Rubber Co. (W. S. Alling, proprietor).—Norwich, September 1, 1890; New London, April 1, 1904.

The Alling Rubber Co. (N. E. Alling, president; Arthur E. Alling, secretary and treasurer).—Bridgeport, November 1, 1895; New Haven, April 1, 1890 (acquired later by the Alling company); Meriden, June 1, 1903; Waterbury, June 1, 1905.

The Stamford Rubber Co. (N. E. Alling, president, C. E. Alling, secretary and treasurer).—Stamford, April 1, 1889.

Alling Rubber Co. (Copartnership between N. E. Alling and Amos P. Mitchell).—Hartford, November 1, 1902; New Britain, April 1, 1904, Springfield (Massachusetts), October 1, 1905.

N. E. Alling, whose headquarters are at the Bridgeport store, is the buyer of the larger portion of the goods for all of the above named stores. Each of the houses has a local manager who has been trained in this chain of stores. In addition to his interest in rubber, Mr. N. E. Alling, in February, 1899, became connected with a furniture and house furnishing goods company in Bridgeport, and since that date has served as secretary and treasurer of the same.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED States Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Aug. 26	7,700	53⅜	51¾	400	110⅝	110
Week ending Sept. 2	4,050	52⅛	50	1,150	110⅞	108¼
Week ending Sept. 9	5,310	51	49¼	700	109	108⅛
Week ending Sept. 16	28,510	57	47¾	4,750	113⅞	108
Week ending Sept. 23	25,070	58⅛	55¾	2,800	114⅜	112

RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High	Low.
Week ending Aug. 26	300	35	34⅞	—	—	—
Week ending Sept. 2	400	34⅝	34	160	105½	105½
Week ending Sept. 9	200	34¾	34	—	—	—
Week ending Sept. 16	800	34⅜	34	—	—	—
Week ending Sept. 23	3,400	35¼	34⅛	200	104	104

UNITED STATES RUBBER CO.

IT is reported that the new issues of this company will be listed on the New York stock exchange shortly. There has been trading recently in the "outside market" in the second preferred shares "when issued," at 79 @ 80. According to gossip in the trade there is a considerable expectation that dividends on the common stock will be resumed at the regular monthly meeting of directors in October. There are no known facts, however, to support this assumption. The last dividend paid on the common shares was on April 30, 1900.

THE FAULTLESS RUBBER CO. (AKRON, OHIO.)

THE Faultless Rubber Co. are constructing some important additions to their factory, and the new buildings are of fireproof construction, with a view to the ultimate conversion of the whole plant to buildings of this class. There is now under way a three story building, to be made of tile and concrete, and it is planned to follow this with two similar buildings, all of which it is hoped to complete within a few months. The company need additional room badly, and it is stated that the additions referred to will double the capacity of the factory.

SUED BY THE STANDARD OIL CO.

SUIT was filed at Akron, Ohio, on August 11, by the Standard Oil Co., against The Lilly Rubber Manufacturing Co. and the individual shareholders therein, for $259.61 for naphtha supplied to the defendants' factory. The case has not yet come to trial, but several of the defendants have filed answers, and among them Irvin R. Benner, a shareholder, who alleges that the plaintiff, the Standard Oil Co., is not a corporation, but a "trust," carrying on business in the state of Ohio in violation of the anti trust laws of Ohio and of the United States, and therefore not entitled to any standing in court.

VENTILATION AND HEATING COMBINED.

EXPERIENCE has clearly demonstrated that in this climate no system of ventilation can be successfully operated by itself and independently of the method of heating that may be adopted. It is, in fact, a vital element of success that the two systems be most intimately combined, for they are clearly interdependent, and when properly applied are so interwoven in their operation and results that disunion is certain to bring about failure. For the purpose of ventilation, the fan was first applied upon a practical scale about the middle of this century, but only to a limited extent, and it was not until the fan and the steam heater in marketable form were introduced by B. F. Sturtevant that the so-called "Blower sys-

tem" became a reality. The system of which these two elements are the most important factors, as originally installed by this house, has naturally been known as "The Sturtevant System." This system is at once practical, successful, and economical; for, air being the natural conveyor of heat, it may, when properly warmed and supplied, perform the double office of heating and ventilating. As applied, the Sturtevant system forces the air into the apartment by the pressure or plenum method. When a fan is arranged to exhaust or withdraw the air from an enclosed space, the term vacuum, or exhaust method, is almost universally applied.

FIRE HOSE IN PHILADELPHIA THEATERS.

THE INDIA RUBBER WORLD'S Philadelphia correspondent writes: "As a result of Fire Marshal Lattimer's annual inspection of theaters in this city, it is probable that some large contracts for supplies of rubber hose will soon be placed. He has recommended to Director of Public Safety Potter that the latter notify owners of theaters and public playhouses to use fire hose made of rubber hereafter, instead of linen. The use of linen hose is considered unsatisfactory because, according to Mr. Lattimer, it is likely to flatten so as to impede the flow of water. 'All hose used in theaters hereafter must be rubber lined,' is the order sent to owners of the different playhouses."

NEW INCORPORATIONS.

THE Akron Rubber Shoe Co., September 21, 1905, under Ohio laws; capital, $5000. This company has been formed by The B. F. Goodrich Co. (Akron, Ohio), in connection with their organization of a new department for the manufacture of rubber footwear.

=Standard Rubber Co., September 2, 1905, under New Jersey laws; capital $50,000. Incorporators: John M. Wright, James D. Brady, and Stephen C. Cook, all of Trenton, N. J. The purpose is the manufacture of mechanical rubber goods; offices have been opened in the First National Bank building at Trenton.

=The Lancaster Rubber Co. (Lancaster, Ohio), August 28, 1905, under Ohio laws; capital authorized, $50,000. Incorporators: Frederick Keifer, Charles J. Franklin, H. C. Benner, Mabel A. Franklin, Edith Keifer.

=Lowe Rubber Process Co. (San Francisco), August 12, 1905, under California laws; capital $300,000, in $1 shares. Incorporators: E. L. Lowe, A. Lollewood, J. H. Marble, and Franklin K. Lowe, all of San Francisco, and R. E. Russell, Alameda, Cal.

TRADE NEWS NOTES.

THE Warren Rubber Co. (Warren, Ohio), wholesalers of rubber boots and shoes, have increased their capital stock from $30,000 to $50,000, to enable them to take care of their steadily increasing business. The company was incorporated early in 1897, with $20,000 capital. The new stock, taken principally by the old shareholders, is entitled to 7 per cent. dividends semi-annually.

=Boston Woven Hose and Rubber Co. advise us that since September 1 their Philadelphia address has been 71 Drexel building, which is the headquarters of Mr. Frederick E. Stockwell, their local branch manager.

=William Raisch has resigned as secretary and treasurer of the Alden Rubber Co. (Barberton, Ohio), to accept a position with the Dayton Rubber Manufacturing Co., and his assistant, E. B. Joy, has been promoted to the position lately filled by Mr. Raisch.

=The New York Fire department repair shops are to be equipped by the B. F. Sturtevant Co. (Boston) with a complete outfit of forges, blowers, and a smoke exhauster.

=One of the most attractive and useful souvenirs offered in the rubber trade is the pigskin card case given to their friends by the Fabric Fire Hose Co. (New York). In addition to this the company issue a very attractive gold and red enamel button bearing their trade mark and the insignia of a fire chief, which button is distributed at firemen's conventions and much prized by recipients.

=Sent out with the compliments of The Pure Gum Specialty Co. (Barberton, Ohio) is an exceedingly beautiful picture entitled "Summer," from an original painting by Philip Boileau, one of the foremost of the younger American school of figure painters. The picture is well worth framing and preserving and is a type of advertising that appeals to all.

=Suit has been filed against the Bourn Rubber Co. in the superior court at Providence, Rhode Island, by Hyman Kamros, a former employé, to recover $5000 for personal injuries alleged to have been due to the defective condition of an elevator in the company's factory.

=William F. Mayo & Co. (Boston) made an extensive exhibit of the lines of rubber boots and shoes of which they are jobbers, at Minneapolis during the Minnesota state fair, September 4 9, in charge of their northwestern representatives, I. R. Burwell and Charles Wiggin.

=A meeting of the directors of the Maynard Rubber Corporation, jobbers in rubber goods at Springfield, Massachusetts, and Hartford, Connecticut, was held in the latter city on September 5, the president, E. W. Maynard, in the chair. Nothing of special interest is reported, the meeting having been devoted to going over the company's plans for the coming year.

=Mr. Webster Norris, who has now become thoroughly adapted to life in a new region, as superintendent of the Republic Rubber Co. (Youngstown, Ohio), spent his vacation this year at Ogunquit, Maine. On his return, at the middle of September, he favored a number of his old friends in the industry, in the East, with a call.

=Towner & Co. (Memphis, Tennessee), proprietors of the leading exclusively rubber house in the South, have secured the contract for supplying the rubber floor tiling and mats required for the splendid new building of the Memphis Trust Co.

=The Aladdin Rubber Co. (Akron, Ohio), have decided upon another location than that reported in these pages last month. Building has been started near the plant of the Alden Rubber Co., at Barberton, and it is expected to be in operation by December 1. The first building will be 111×54 feet, part three stories high.

=The American Chicle Co.'s new factory at Toronto is about completed, the main building being 250 × 60 feet and three stories high, with an annex having a floor space of 7000 feet. J. W. Siddall, of Toronto, is the architect.

=Incorporation papers were filed under the laws of New York, September 13, 1905, by the Standard Safety Air Cushion Co., of New York city, with $100,000 capital, to manufacture air cushions for passenger and freight elevators. This involves no use of rubber, the cushions being made of steel plates. The list of incorporators is headed by John L. Baker, No. 31 Broadway, New York.

=The Neponset Rubber Co., incorporated in New Jersey in 1904 to make mechanical rubber goods at Hyde Park, Massachusetts, acquired the factory before used by the Boston Gossamer Rubber Co., and about 3 acres of the land attached thereto, for $30,000. They paid $10,000, giving a mortgage for the remaining $20,000 to the Federal Trust Co. (Boston). The sheriff of Norfolk county, Mass., on August 26, sold certain materials in the factory, seized under attachment, and the factory has been closed.

=The Indiana Rubber and Insulated Wire Co. (Jonesboro, Indiana), have just completed a new addition to their buildings and have orders placed for additional machinery to cost about $20,000. This machinery is in the way of mills and a new calender, as well as some extensive wire testing apparatus.

=The Swinehart Clincher Tire and Rubber Co. (Akron, Ohio), have been installing a new steam engine, hydraulic press, mill, and tubing machines, with the effect of doubling their capacity.

=The Stein Double Cushion Tire Co. (Akron, Ohio) have in progress two additions to their factory, which they hope to have completed and in use during this month. One addition, 70 × 40 feet, will be used for a machine shop, and the other, 40 × 20 feet, for a curing room. The new additions will practically double the capacity of the factory.

=It is understood that the shareholders of the Goodyear Tire and Rubber Co. at the meeting referred to in the last INDIA RUBBER WORLD (page 422), after discussing the proposed substitution of new shares for the bonds now outstanding, failed to take any action in the matter.

=The business established 30 years ago by Joseph Bachrach, in the manufacture of rubber balloons and other novelties, in Brooklyn, New York, is now being carried on by his son Philip Bachrach, at No. 23 Judge street, where the concern has been located for 21 years. Philip Bachrach, in addition to conducting the factory, is active in Brooklyn political affairs.

=The Cincinnati Rubber Manufacturing Co. have arranged for their Chicago representation, with offices at room 321 Rookery building, which will be in charge of Mr. J. E. Dickxon, who has been identified with the rubber trade in Chicago and the territory tributary thereto for a number of years.

MR. APPLETON IN A CARTOON.

THE Boston *Traveler* has a cartoonist who daily brings before the people of the "Hub" well known business men by means of a very good sketch and a few suggestive touches that are descriptive of the business in which the subject of the sketch is engaged. The illustration shown is a very good portrait of Mr. Francis H. Appleton and the kinds of rubber scrap that he holds in his hands point to the reclaiming business which he successfully runs. The artist has pictured him as being pretty well up in the air—perhaps prophetic of the near future, when prices of rubber scrap will soar so high that the trade can only reach them from the chimney tops.

MR. F. H. APPLETON.

THE HARTFORD RUBBER WORKS CO.

AT a meeting of the directors at Hartford on September 20, the work of the general manager was divided between two officials. William Seward, Jr., first vice president, who has been the general manager for some years, was made factory manager, and J. D. Anderson, a vice president, was made commercial manager. Thomas Midgley, who has been in charge of the testing department, as consulting engineer, was added to the list of vice presidents. Charles B. Wittlesey, hitherto general correspondent, has been made chief clerk.

ELECTRIC RUBBER MANUFACTURING CO.

THIS company, incorporated in November, 1903, under New Jersey laws, with $1,000,000 capital authorized, has begun operations at Rutherford, in that state, in the premises sometime occupied by the Hazleton Boiler Co. The new company is engaged in the manufacture of solid and pneumatic vehicle tires, one feature of which is a process designed to protect the rubber against oxidization. The company is also producing hard rubber battery jars. The officers are: James H. George, president; W. A. Jacobus, vice president; W. J. Conkling, treasurer; and Charles H. George, secretary. The factory superintendent is Henry A. Middleton, who has had a number of years experience in the rubber industry.

PERSONAL MENTION.

MR. ELIOTT M. HENDERSON, vice-president of the Manhattan Rubber Manufacturing Co. (New York), recently started on a tour of business and pleasure combined. The leading American newspapers have been supplied by the Associated Press with the following cable despatch:

LIVERPOOL, September 26.—Mr. E. M. Henderson, vice president of the Manhattan Rubber Manufacturing Co., of New York, one of the largest rubber concerns in the United States, is at present visiting this country to investigate the conditions and trend of the rubber trade here. Mr. Henderson, through the Institute of Tropical Research, has been introduced to Liverpool rubber merchants, and after a short stay in the city proposes to visit Manchester and London. Subsequently Mr. Henderson will extend his tour of commercial observation to the plantations of Ceylon, the Straits Settlements, East Africa, and possibly West Africa also, his principal object being to examine the methods of rubber cultivation and the different processes of coagulation. Mr. Henderson's tour, practically around the world, is a striking illustration of the way in which enterprising business men set to work, the aim in this case being to study the improvements introduced during recent years into the rubber growing industry in order that the company concerned may keep pace with the latest improvements in their own extensive plantations in Nicaragua.

=Mr. Arthur W. Stedman, of the firm of George A. Alden & Co., has very few equals as a judge of fine horses. A significant evidence of this was his selection recently as one of the judges at a horse show at a county fair held at Windsor, Vermont, which he attended as the guest of Winston Churchill, and a few days later where he acted as judge at the fashionable horse show of the Myopia Hunt Club, Hamilton, Mass.

=President Colt, of the United States Rubber Co., and President Ivins, of the General Rubber, have returned from Europe.

=The somewhat lurid headline that appeared recently in the Philadelphia *Evening Telegraph*, which read:

CHESTER PIKE

A MENACE TO LIFE AND LIMB.

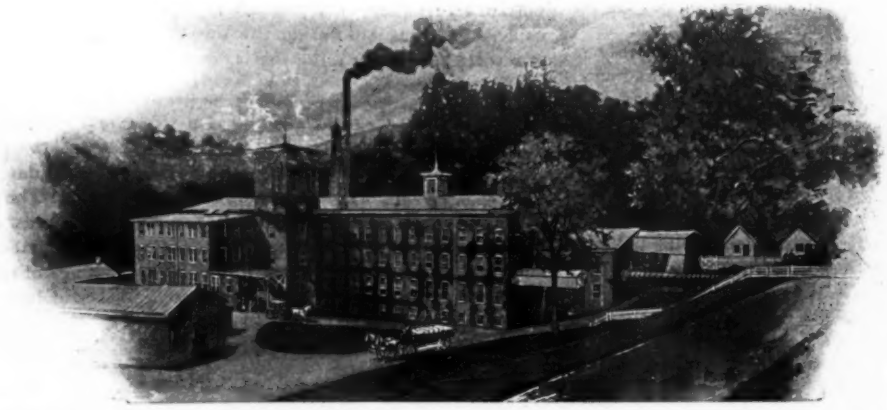
does not refer to the gentleman of that name who has long been distinguished as one of the ablest of the rubber shoe salesmen. The reference is to the turnpike of the town of Chester, familiarly known as "the pike."

THE FABRIC FIRE HOSE CO.'S PLANT.

THE factory of the Fabric Fire Hose Co., at Sandy Hook, Connecticut, on a tract of 100 acres on both sides of the Pootatuck river, is fortunately situated with regard both to the fitness of the location for its business and to the attractiveness of the surroundings. It is a historic site, for here were the beginnings of the New York Belting and Packing Co., who occupied these premises for many years before removing their factories to New Jersey. Part of the premises also served as the original hard rubber factory of the late Conrad Poppenhusen, pioneer in that industry.

Near the spacious factory buildings, with the daily capacity of 6000 feet of fire hose, are 28 well constructed dwelling houses owned by the company and occupied by the 100 employés at a nominal rental—the nucleus of an ideal industrial community, whose workers are well paid and well satisfied, and who are consequently absolutely loyal to the interests of the company.

The specialty of the Fabric Fire Hose Co. is a wax and Pará gum treated hose, the process, which is patented, consisting of saturating the yarn with melted wax and rubber, which treatment renders it impervious to rot and mildew. Another and very popular line manufactured by this company is its Under-



writers' hose, an antiseptically treated product known as the "Keystone" brand, and made under the specifications of the National Board of Underwriters and Associated Factory Mutual Insurance Companies. In addition to this they make a garden hose of superior quality and which is in active request—in common with its other lines—as the entire output of the factory is absolutely guaranteed.

An important feature of the factory is its completely equipped machine shop, in which virtually all of the looms in operation in the factory are made, as are all of the repairs. The entire plant is equipped with the most approved apparatus, from its automatic sprinkler system to its new Bowser naphtha tank, endorsed by the Associated Factory Mutual Insurance Companies. A new building to be devoted exclusively to tube manufacture is now in process of erection.

This ideal plant, as well as the New York headquarters (No. 127 Duane street), are under the personal supervision of Mr. William T. Cole, general manager of the company, to whose genius for organization and untiring effort may be ascribed not only the present model condition of the factory and property, but of its people as well. Improved looms and many other innovations may be credited to the same source. Mr. Cole has a charming home at Sandy Hook, where he and his family spend the greater part of the year.

TRADE CLASH OVER GOLF BALLS.

[FROM THE NEW YORK "SUN," SEPTEMBER 18.]

A CLASH between certain makers of golf balls, too eager to use the open championship as a vehicle to advertise their products, and the United States Golf Association executive committee, has been settled in the manner suggested by the committeemen. Six or eight weeks ago the professionals throughout the country received from one firm a circular stating that the player winning the open championship with its ball would receive a bonus of $500, that whoever came second would get $250 and so on to an aggregate of $1000. Similar circulars were sent out by one or two other makers, offering cash inducements to the players to use their golf balls. The first prize in the open is $200 and a golf medal and the added money in all is $870; and unless this system of bonuses was nipped in the bud, there was apprehension among the committeemen that a rank evil would grow up to smother the importance of the open championship as a genuine, fair and above board test of golfing skill.

A sub-committee, headed by Ransom H. Thomas, the United States Golf Association president, took charge of the matter. While admittedly supreme in its power over the game and the players, this was the first movement on the part of the United States Golf Association to interfere in any way with the methods of those who sell golf goods, aside from what has been done incidentally in drawing a line between the amateur and the professional, and although enlisted to fight to a finish if necessary, the committeemen did not begin with threats. If the concerns approached had chosen to wave the red flag of defiance none of the players would have been permitted to use the balls boomed in the objectionable manner, but no such retaliatory policy has been brought up in the carrying on of the negotiations.

Mr. Thomas opened up a correspondence with the different hustlers in the golf ball trade, which led to personal interviews and promises that the circulars announcing bonuses would be forthwith cancelled. The makers have submitted and the cash premiums announced are now null and void. Mr. Thomas's declaration of independence was this:

> The offering by manufacturers of golf goods of cash prizes to be played for at the open championship of the United States Golf Association is, in the opinion of the executive committee, detrimental to the best interests of the game of golf and should be prohibited.

The manufacturers have agreed to uphold the text and spirit of this ruling.

THEY MIGHT LAUGH.—The Mexican rubber monopoly might do well to see Dr. Tutton and buy his discovery. But probably they will laugh at it until it proves too good a thing to sell.—*Benton Harbor (Michigan) Palladium.*

AN UNANSWERED QUERY.—The Cincinnati *Enquirer* prints the following inquiry without vouchsafing any reply: "Could you kindly inform an old subscriber how I could make material same as rubber collars are made of?"

THE TEXTILE GOODS MARKET.

THE present condition of the cotton duck market is firmer than one month ago, with the tendency upward. The fact that the cotton planters at their recent convention resolved to hold the price at 11 per pound would indicate that prices for manufactured goods would be higher than they were last season, though manufacturers of ducks have not as yet made any prices for next year. It is not improbable that the schedule will be prepared within the current month.

There appears to be a persistent demand for ducks of every description and it is estimated by a competent authority that if demand increases proportionately next season the mills will probably be unable to meet it.

The raw cotton situation is extremely strong, the speculators exerting every effort to promote a strong "bull" movement and with considerable success. If the speculators are able to effect continued advances the spinners will be compelled to buy, which will naturally add strength to the situation.

The following letter from the president of an important southern mill to their New York agents is a faithful and significant reflection of existing conditions:

Owing to the advance in cotton and more than that to the very evident tendency to market slowly on the part of producers of the staple, we are compelled to make an advance in the price of goods. We would much prefer to continue selling at same prices if we could secure cotton at a profitable price. We know the danger of curtailing the consumption of goods by high prices and regretfully make the advance. There can be no doubt of the disposition or ability of the farmers to hold cotton until they can get their own price and we expect a sharp advance as soon as the slow marketing shall show up in the receipts.

The demand for numbered ducks is so heavy and results so satisfactory that it will be likely to exert an effect during the coming season on hose and belting duck prices. The disposition on the part of rubber trade buyers seems to be to avoid contracting for fabrics at existing quotations as long as present supplies or those covered by last season's contract agreements hold out.

NEW CABLE TO CHINA AND JAPAN.

A CERTIFICATE of increase of capital of the Commercial Pacific Cable Co., incorporated under the laws of New York state, from $12,000,000 to $15,000,000, was filed at Albany on September 15, together with an amendment to the certificate of incorporation providing that the line now extending from San Francisco, California, by way of Hawaii and Guam to Manila, may be extended from the latter point to Shanghai, China. Another extension is to be made from Guam to Yokohama, Japan. These extensions will have the effect of completing the original plans of the company, which it has been impossible to carry out hitherto owing to certain obstacles in the way of securing landing rights on the Asiatic mainland which have now been removed as a result of recent diplomatic negotiations. The consent of China to a landing at Shanghai was obtained several weeks ago, and the signature of the Japanese minister to the United States to an agreement with the cable company was made on September 13. The company will now proceed promptly with the manufacture and laying of the two new cables, which will require several months. The company's system will then pierce the Far East at three points: the Philippines, China, and Japan. With the new cable from Canso, Nova Scotia, to Port au Basques, Newfoundland, which was opened for business on September 11, and the fifth transatlantic cable, which was laid during the month, the Commercial system will extend over more than two-thirds of the way around the globe.

THE London correspondent of *The Times of Ceylon* writes: "Talking to the director of a Straits rubber company this week, he mentioned that on their property 100 coolies a day were hard at work tapping and bringing in 12 ounces a day. The yield per tree (the trees being from six to seven years old) was some 6 ounces from the one tapping, and the manager estimated that the yield per tree for the year would be 1¾ pounds of rubber per tree operated upon. The first consignment sold last week at 6*s.* 7*d* [=$1 50⅛]."

REVIEW OF THE CRUDE RUBBER MARKET.

THERE is practically no change to report in rubber market conditions since our last publication. Prices are higher for every grade quoted in these pages, but the figures given in this issue merely record a recovery from the decline which began about four months ago, covering the period of lessened activity in the industry during the heated term. The highest figures we have quoted for fine Islands Pará have been 132 @ 133, and the same grade is now 127 @ 128.

Considering the apparent activity of the factories in every branch of the industry, and the extent of stocks, together with the fact that it is yet too early for a large output from the Amazon for the current crop season, there is little to encourage the hope of lower priced rubber during the current year.

At the Antwerp sale on September 19, the 260 tons offered found ready buyers at a somewhat higher average than at the preceding sale. The August sale, it will be remembered, covered exceptionally large offerings for that market, and at higher prices than the brokers' estimation. The fact that at the next succeeding sale prices should show a still further advance is significant of the general situation in the rubber market—firmness and an upward tendency.

Arrivals at Pará thus far for the crop season have been somewhat larger than during the same months in preceding years, but not enough larger to suggest any probability of lower prices in consequence. The figures follow:

	1902.	1903.	1904.	1905.
July.....*tons*	1290	1280	1250	1450
August.....	1370	1230	1260	1300
September.....	1670	2010	1780	*a* 1850
Total.....	4330	4520	4290	4600

[*a*—To September 28.]

On another page appear details regarding the plantation rubber from the Far East offered at the London auctions during September. The rubber referred to appears to have become permanently established in the London markets and the amount coming forward may be expected to increase steadily with each year as more trees under cultivation come into bearing.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on September 29—the current date:

PARA.	October 1, '04.	September 1 '05.	September 29.
Islands, fine, new.....	108@109	125@126	127@128
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	110@112	128@129	129@130
Upriver, fine, old.....	112@114	131@132	132@133

Islands, coarse, new	60@ 62	70@ 71	71@ 72
Islands, coarse, old	none here	none here	none here
Upriver, coarse, new	86@ 87	90@ 91	92@ 93
Upriver, coarse, old	none here	none here	none here
Caucho (Peruvian) sheet	67@ 68	71@ 72	73@ 74
Caucho (Peruvian) ball	76@ 77	84@ 85	85@ 86

African sorts at New York show an advance, almost without exception:

AFRICAN.		CENTRALS.	
Sierra Leone, 1st quality	101@102	Esmeralda, sausage	84 @85
Massai, red	101@102	Guayaquil, strip	73 @74
Benguella	80@ 81	Nicaragua, scrap	83 @84
Cameroon ball	69@ 70	Panama, slab	67 @68
Accra flake	26@ 27	Mexican, scrap	83 @84
Lopori ball, prime	108@109	Mexican, slab	60 @62
Lopori strip, prime	91@ 92	Mangabeira, sheet	72 @73
Madagascar, pinky	91@ 92	EAST INDIAN.	
Ikelemba	109@110	Assam	97 @98
		Borneo	43 @44

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	5$400	Upriver, fine	6$400
Islands, coarse	2$600	Upriver, coarse	4$300

Exchange, $17\frac{5}{16}d.$

Last Manáos advices:

Upriver, fine	6$300	Upriver, coarse	3$800

Exchange, $17\frac{5}{16}d.$

NEW YORK RUBBER PRICES FOR AUGUST (NEW RUBBER).

	1905.	1904.	1903.
Upriver, fine	1.27@1.29	1.18@1.21	95 @100
Upriver, coarse	90@ 92	90@ 91	75 @ 79
Islands, fine	1.25@1.27	1.14@1.16	90 @ 97
Islands, coarse	68@ 70	65@ 67	59 @ 61
Cametá	71@ 73	65@ 66	58 @ 61

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.		Total 1905.	Total 1904.	Total 1903.
Stocks, July 31 ...tons	292	125	=	417	137	367
Arrivals, August	223	222	=	445	478	942
Aggregating	515	347	=	862	615	1309
Deliveries, August	284	262	=	546	549	1085
Stocks, August 31	231	85	=	316	66	224

	PARÁ.			ENGLAND.		
	1905.	1904.	1903.	1905.	1904.	1903.
Stocks, July 31 ...tons	240	175	115	390	585	1320
Arrivals, August	1230	1010	1050	690	595	330
Aggregating	1470	1185	1165	1080	1180	1650
Deliveries, August	1195	870	1030	700	745	675
Stocks, August 31	275	315	135	380	435	975

	1905.	1904.	1903.
World's visible supply, August 31 ...tons	1534	1281	2088
Pará receipts, July 1 to August 31	2480	1010	1050
Pará receipts of Caucho, same dates	220	230	230
Afloat from Pará to United States, August 31	87	166	394
Afloat from Pará to Europe, August 31	476	241	360

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots, in cents per pound—show a general increase over last month's figures, as follows:

Old Rubber Boots and Shoes—Domestic	7⅛ @ 7⅜
Do —Foreign	6¾ @ 6⅞
Pneumatic Bicycle Tires	5½ @ 5⅝
Solid Rubber Wagon and Carriage Tires	7⅜ @ 7½
White Trimmed Rubber	8⅛ @ 8¼
Heavy Black Rubber	4⅞ @ 5
Air Brake Hose	3¼ @ 3⅜
Fire and Large Hose	2¾ @ 2⅞
Garden Hose	2¼ @ 2½
Matting	1 @ 1¼

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 68 William street, New York) advises us as follows:

"Since August the condition of the money market has changed materially, and the demand for paper has been much lighter during September than for several months past, and rates have been strong at 5 per cent. for the best rubber names, and 5½ @ 6½ per cent. for those not so well known."

Antwerp.

RUBBER ARRIVALS AT ANTWERP.

AUGUST 29.—By the *Leopoldville*, from the Congo:

Bunge & Co	(Société Générale Africaine) *kilos.*	82,000	
Do	(Chemins de fer Grand Lacs)	6,000	
Do	(Société A B I R)	40,000	
Société Coloniale Anversoise	(Belge du Haut Congo)	1,500	
Do	(Süd Kamerun)	2,000	
Do		1,000	
Société Equatoriale Congolaise	(Société l'Ikelemba)	2,000	
Cie Commerciale des Colonies	(La Haut Sangha)	2,000	
Charles Dethier	(Société La "M'Poko")	1,500	
Comptoir des Produits Coloniaux	(Ikela-Kadei Sangha)	20,000	
Do	(Société "N'Goko" Sangha)	2,000	
M. S. Cols	(Société l'Ikelemba)	1,000	
Société Generale de Commerce	(Alimaienne)	4,700	
Do	(Société La Lobay)	10,000	
L. & W Van de Velde	(Cie. du Kasai)	45,000	
Do		1,600	222,300

Canada.

IMPORTS (in value) of crude India-rubber and Gutta-percha, reclaimed rubber, and substitutes for fiscal years ended June 30:

FROM—	1902-03.	1903-04.	1904-05.
Great Britain	$ 7,119	$ 4,496	$ 26,379
United States	1,816,682	2,508,939	2,701,832
Other countries	904	919	332
Totals	$1,824.705	$2,514,354	$2,728,543

Rubber Receipts at Manaos.

DURING August and two months of the crop season for three years [courtesy of Messrs. Scholz & Co.]:

FROM—	AUGUST. 1905.	1904.	1903.	JULY-AUGUST. 1905.	1904.	1903.
Rio Purús—Acre ...tons	431	361	294	656	506	457
Rio Madeira	251	330	240	470	479	492
Rio Juruá	57	...	...	94	25	2
Rio Javary—Iquitos	30	188	100	120	213	114
Rio Solimões	93	6	15	104	10	25
Rio Negro	1	...	3	5	...	15
Total	863	885	652	1449	1233	1105
Caucho	98	79	47	186	178	208
Total	961	964	699	1635	1411	1313

Para.

KANTHACK & Co. report [September 11]:

The rubber market has been distinctly more cheerful than for some time past, and with the continuance of well sustained and animated demand the impulse towards higher prices has taken further effect. Receipts are on quite a normal scale, being slightly in excess of last year's, while crop prospects continue to be very satisfactory.

Ceylon Exports (Plantation Rubber).

DETAILS—BY WEEKS.

	POUNDS.		POUNDS.
January 1 to July 24	55,895	Total to Aug. 21	69,047
Week ending July 31	992	Same period, 1904	41,766
Week ending Aug. 7	2,340	Same period, 1903	26,463
Week ending Aug. 14	5,898		
Week ending Aug. 21	3,922		

DESTINATION.

Great Britain	51,808	United States	3,036
Germany	13,535	Australia	1,147

London.

EDWARD TILL & Co. report stocks [September 1]:

		1905.	1904.	1903.
LONDON	Pará sorts.....tons	12	—	—
	Borneo	52	60	28
	Assam and Rangoon	45	10	8
	Penang	402	—	—
	Other sorts	200	378	202
	Total	711	448	238
LIVERPOOL	Pará	378	199	650
	Caucho	122	229	222
	Other sorts	483	632	254
	Total, United Kingdom	1694	1508	1364

PRICES PAID DURING AUGUST.

	1905.	1904.	1903.
Pará fine, hard	5/ 6½@5/ 7	5/ @5/ 2¾	4/ 1 @4/ 3
Do soft	5/ 5 @5/ 6	4/10½@5/ 1½	3/11 @4/ 2½
Negroheads, scrappy	3/10¾ 3/10	@3/11	3/ 2 @3/ 3¾
Do Cametá	3/ 1 @3/ 1½	2/ 8¾@2/10½	2/ 6¼@2/ 6½
Bolivian	5/ 6½@5/ 7	5/ @5/ 2½	4/ 2½@4/ 3½
Caucho, ball	3/ 6½@3/ 8¼	3/ 5 @3/ 6	3/ 0¾@3/ 3
Do slab	3/ @3/ 1	1/11 @2/10½	2/ 7 @2/ 7½
Do tails	3/ 1 @3 /3¼	*3/2	*2/ 9

[* Nominal value.]

AUCTION SALES REPORT.

SEPTEMBER 15.—The market for Pará has remained very quiet, with small sales at about 1*d.* decline. Fine hard on the spot and near sold at 5*s.* 7*d.*; November-December delivery at 5*s.* 5*d.*; soft fine scarce near at hand sold at 5*s.* 6¾*d.* Negroheads in fair demand; Manáos scrappy sold at 3*s.* 11*d.* @ 3*s.* 11½*d.*; Cametá 3*s.* 11½*d*, and Islands at 2*s.* 7½*d.* Bolivian firmly held for 5*s.* 8*d.* Mollendo quiet at 5*s.* 6*d.* nearest value. Peruvian quiet and little business doing; fine 5*s.* 7*d.*, scrappy 3*s.* 9*d.*, and slab 3*s.* 1*d.* Medium grades in auction to-day in moderate supply, and in good demand at generally dearer rates. Orinoco: 127 packages sold; fine at 5*s.* 6½*d*; entrefine 5*s.* 4*d.*; scrappy negroheads at 2*s.* 10½*d.* Colombian good clean sheet, a little heated, 3*s.* 7½*d.* Central American and Cartagena good brown scrap at 3*s.* 8¾*d.* @ 3*s* 9*d.* Madagascar rather mixed to good pinky 3*s.* 8¼*d.* @ 3*s* 9*d* Mozambique small red loose ball 4*s.* 1*d.* Lamu ball rather sandy 3*s.* 4½*d*...

PLANTATION RUBBER.

LONDON, September 1—The parcels that were offered at auction today met with good competition, and for good sheet and pancakes 6*s.* 3*d.* @ 6*s.* 3¼*d.* was obtained; scrap 4*s.* 6*d.* @ 5*s.*, according to quality. A parcel of Straits consisting of 20 cases sheet for which 6*s.* 3*d.* was bid and 70 cases Crêpe (50 pounds each) for which 6*s.* 4*d.* was bid, being 2*d.* per pound below recent sales privately, was offered and bought in. The particulars are as follows:

CEYLON.

MARK.	Packages.	Description.	Price.
Glaurhos	2 cases.	Scrap.	Bought in
Arapolakande	6 cases.	Fine dark biscuits.	6*s.* 3¼*d.*
Arapolakande	2 cases.	Good scrap.	5*s.*
Hattangalla	1 case.	Fine biscuits, little rough.	6*s.* 3*d.*
Hattangalla	1 case.	Good scrap.	5*s.*
Nikakotua	1 case.	Scrap.	Bought in
Glencorse	1 case.	Biscuits mixed colors.	6*s.* 3*d.*
Glencorse	1 case.	Scrap.	Bought in

STRAITS.

A B S	2 cases.	Fine thin pale sheets.	6*s.* 3¼*d.*
A B S	1 case.	Scrap.	Bought in
*Highlands estate	20 cases.	Fine sheets.	6*s.* 3*d.* bid
*Highlands estate	70 cases.	Pale and darkish Crêpe.	6*s.* 4*d.* bid
S P	2 cases.	Yellow pancakes.	6*s.*

Fine Pará 5*s.* 6¾*d.*

LEWIS & PEAT.

*The Highlands Estate is the property of Mr. W. W. Bailey [see THE INDIA RUBBER WORLD, September 1, 1904—page 407], near Klang, in the state of Selangor. The 20 cases referred to were held at 6*s.* 5*d.* The 70 cases, according to another report, were sold later at 6*s.* 4¾*d.*

LONDON, September 15.—At public sale to-day the largest amount of plantation grown Pará rubber yet offered at auction was catalogued, consisting of 84 packages Straits and 89 packages Ceylon, weighing in all about 8 tons. The quality generally was good, but there were very few really nice sale lots. The scrap was mostly mixed, of which there was some very poor lots on show. A little lot of 10 cases black Java sheet, being badly heated, only realized a low price. The demand was good, but in sympathy with lower prices for ordinary Pará, lower rates had to be accepted for fine biscuits—6*s.* 2*d.*@6*s.* 4½*d.* being the range of prices. Full particulars are as follows:

CEYLON.

MARK.	Packages.	Description.	Price.
Warriapolla	4 cases.	Very fine pale biscuits.	6*s.* 4½*d.*
Warriapolla	1 case.	Fine darkish.	6*s.* 3*d.*
Warriapolla	1 case.	Mixed biscuits.	6*s.* 3*d.*
Warriapolla	3 cases.	Scrap balls.	3*s.* 10¼*d.*
Warriapolla	2 cases.	Rejections.	4*s.* 1*d.*
Tellagalla	4 cases.	Very dark biscuits.	Bought in.
Tellagalla	1 case.	Rejections.	5*s.* 1*d.*
Tellagalla	1 case.	Ordinary scrap.	4*s.* 7*d.*
Tellagalla	1 case.	Very barky scrap.	3*s.* 7½*d.*
M	2 boxes.	Fine biscuits.	6*s.* 3*d.*
M	1 box.	Scrap and rejected.	3*s.* 6*d.*
Gammadua	1 box.	Fine pale Ceará biscuits.	6*s.* 3*d.*
Glencorse	1 case.	Scrap.	4*s.* 8*d.*
Doranakande	2 cases.	Mostly dark biscuits.	Bought in.
Elston	1 case.	Dark scrap.	4*s.* 9*d.*
Elston	1 case.	Fine biscuits.	Bought in.
Culloden	5 cases.	Fine pale biscuits.	6*s.* 4*d.*
Culloden	1 case.	Scrap nuggets.	5*s.* 1½*d.*
Culloden	4 cases.	Pale scrap.	5*s.* 6*d.*
Culloden	1 case.	Dark.	3*s.* 6*d.*
Ellakande	2 cases.	Fine biscuits.	6*s.* 2¾*d.*
Ingoya	3 cases.	Fine pale biscuits.	6*s.* 2*d.*
H L	1 bag.	Scrap.	4*s.* 9*d.*
K	2 cases.	Small pale biscuits.	6*s.* 3½*d.*
	3 bags.	Biscuits and scrap.	5*s* 3*d.*
K	9 cases.	Fair biscuits.	Bought in.
	5 cases.	Fair biscuits.	Bought in.

STRAITS.

P R	3 cases.	Fine sheets.	6*s.* 3½*d.*
S B	1 case.	Scrap.	5*s.* 0½*d.*
G M	3 cases.	Very fine biscuits.	6*s.* 4*d.*
S B C	1 case.	Good scrap pale.	5*s.* 2*d.*
	1 bag.	Scrap biscuits.	4*s.* 7*d.*
P R			
S B	5 cases.	Fine large sheets.	6*s.* 4*d.*
D & Co.	3 cases.	Scrap.	5*s* 2½*d.*
V R & Co L	9 cases.	Mixed biscuits.	6*s.* 2*d.*
Klang	1 case.	Dark scrap.	3*s.* 9*d.*
F W Q	2 cases.	Fair scrap.	5*s.* 4½*d.*
J A	1 case.	Fine biscuits.	6*s.* 2*d.*
	7 cases.	Fair biscuits.	6*s.* 3*d.*
	4 cases.	Dark scrap heated.	3*s.* 4½*d.*
B R R Co.	1 bag.	Cut pieces.	5*s.* 1½*d.*
	1 case.	*Ficus* black.	4*s.* 3½*d.*
	2 cases.	*Ficus* red.	Bought in.
	2 cases.	Sheets and biscuits.	Bought in.

JAVA.

Tjiderock	9 cases.	Fine black sheets, heated.	4*s.* 1*d.*
Tjiderock	1 case.	Very badly heated.	1*s.* 7*d.*

LEWIS & PEAT.

[NOTE.—In cases where marks involve symbols in addition to initials, no attempt has been made above to reproduce them.]

Liverpool.

WILLIAM WRIGHT & Co. report [September 1]:

Fine Para.—Demand on spot has been dull, with only slight fluctuations; closing value 5*s.* 7*d.*, with not much inquiry for Upriver. There is a good demand for Islands and little offering; buyers at 5*s.* 6*d.*, sellers 5*s.* 6½*d.* There has been a good demand for delivery, but in the present statistical position sellers are chary of offering, especially for distant. To-day's values are September, 5*s.* 6¾*d.*, September-October, 5*s.* 6½*d.*, October-November, 5*s.* 5¾*d.*, November-December, 5*s* 5*d.* America still keeps quiet, and we are of opinion that when she does enter the market, although she will not rush prices, the demand thus created will have the effect of preventing any serious decline in values. In Brazil the demand is strong and active, all supplies finding ready buyers at prices considerably over those ruling here.

ALDEN, SYMINGTON & Co. announce that they have admitted into partnership Mr. Harry Symington and Mr. Edward Olson, both of whom have been actively associated with the firm in their business for some years.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

September 5.—By the steamer *Bernard*, from Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	19,800	1,700	25,600	2,500=	49,600
Poel & Arnold	.....	.....	81,100	.....=	81,100
A. T. Morse & Co	2,500	.....	17 500	.....=	20,000
Edmund Reeks & Co	12,300	100	2,300	.....=	14,700
Lionel Hagenaers & Co.	5,000	.....	1,200	. ...=	6,200
Total	39,600	1,800	127,700	2,500=	171,600

September 15.—By the steamer *Cearense*, from Manáos and Pará:

New York Commercial Co.	129,600	21,100	81,000	2,200=	233,900
Poel & Arnold	15,600	4,800	83,600	300=	104,300
A. T. Morse & Co	14,600	4,600	36,100	14,100=	69,400
Neale & Co	15,500	2,800	20,800	....=	39,100
Edmund Reeks & Co	13,900	1,000	12,700	800=	28,400
Thomsen & Co	15,300	. ...	4,300	.....=	19,600
Lionel Hagenaers & Co.	14,900	.....	4,100	.....=	19,000
Lawrence Johnson & Co.	.....	.....	....	19,700=	19,700
Total	219,400	34,300	242,600	37,100=	533,400

September 26.—By the steamer *Cearense*, from Manaos and Pará:

New York Commercial Co.	120,900	30,500	37,200	2,400=	191,000
A. T. Morse & Co	27,700	4,600	62,700	4,300=	99,300
Poel & Arnold	....	....	57,500	. ..=	57,500
Neale & Co	.....	....	27,800	....=	27,800
Hagemeyer & Brunn	3,800	....	10,000	....=	13,800
L. Hagenaers & Co	5,800	...	4,300	....=	10,100
Edmund Reeks & Co	3,700	1,000	500	4,300=	9,500
Total	161,900	36,100	200,000	11,000=	409,000

[NOTE.—The steamer *Dunstan*, from Pará, is due at New York, October 5, with 370 tons Rubber.]

PARA RUBBER VIA EUROPE.

SEPT. 2.—By the *Maracas*=Ciudad Bolivar:

	POUNDS.	
Thebaud Brothers (Fine)	7,500	
Thebaud Brothers (Coarse)	2,000	9,500

SEPT. 2.—By the *Lucania*=Liverpool:

Poel & Arnold (Caucho)		65,000

SEPT. 11.—By the *Cedric*=Liverpool:

Poel & Arnold (Caucho)		80,000

SEPT. 11.—By the *Etruria*=Liverpool:

George A. Alden & Co. (Caucho)	47,000	
Wallace L. Gough (Fine)	4,500	51,500

SEPT. 25.—By the *Umbria*=Liverpool:

New York Commercial Co. (Coarse)		5,000

OTHER ARRIVALS AT NEW YORK.

CENTRALS.

AUG. 25.—By the *Rio Grande*=Mobile:

	POUNDS.	
A. N. Rotholz		3,500

AUG. 26.—By the *Seguranca*=Colon:

G. Amsinck & Co	2,700	
J. A. Medina & Co	1,900	
Meyer Hecht	1,800	
Mann & Emdon	1,100	
Lanman & Kemp	500	8,000

AUG. 26.—By the *Vigilancia*=Mexico:

E. Steiger & Co	2,500	
Harburger & Stack	1,800	
Strube & Uitze	4,000	
J. W. Wilson & Co	1,300	
H. Marquardt & Co.	1,000	
Isaac Kubie & Co.	500	
American Trading Co	500	11,600

AUG. 29.—By the *Terence*=Bahia:

Hirsch & Kaiser	47,000	
American Commercial Co	5,000	52,000

AUG. 30.—By the *Sarnia*=Costa Rica:

G. Amsinck & Co	2,500	
Mecke & Co	2,000	
Andreas & Co	1,000	
Isaac Brandon & Bros	500	6,000

AUG. 31.—By the *Havana*=Colon:

Hirzel, Feltman & Co	8,200	
G. Amsinck & Co	5,700	
J. A. Medina & Co	3,400	
Dumarest Bros. & Co	3,300	
Roldan & Van Sickle	2,800	
A. M. Capen's Sons	2,700	
Charles E. Griffin	2,000	
A. Santos & Co	1,800	
E. B. Strout	1,700	
Lawrence Johnson & Co	1,200	
Mann & Emdon	700	
D. A. De Lima & Co	500	
Meyer Hecht	500	34,500

AUG. 31.—By the *San Marcos*=Mobile:

A. T. Morse & Co	6,500	
Manhattan Rubber Mfg. Co	1,500	8,000

SEPT. 2.—By the *Yucatan*=Mexico:

H. Marquardt & Co	2,000	
Thebaud Brothers	2,500	
Harburger & Stack	1,300	
E. N. Tibbals & Co	1,000	
E. Steiger & Co	500	
Fred. Probst & Co	500	7,800

SEPT. 6.—By the *Advance*=Colon:

Hirzel, Feltman & Co		14,000

CENTRALS—Continued.

SEPT. 6.—By the *Alleghany*=Colombia:

D. A. DeLima & Co	1,500	
G. Amsinck & Co	1,500	
Roldan & Van Sickle	1,300	
Banco Exportasos	1,200	5,500

SEPT. 7.—By the *Sabine*=Mobile:

A. T. Morse & Co	3,000	
Manhattan Rubber Mfg. Co	2,000	5,000

SEPT. 9.—By the *Matanzas*=Mexico:

H. Marquardt & Co	1,000	
Graham, Hinkley & Co	800	
European Account	22,500	24,000

SEPT. 11.—By the *Mexico*=Colon:

Lawrence Johnson & Co	10,400	
E. B. Strout	8,000	
J. A. Medina & Co	5,500	
G. Amsinck & Co	4,000	
Hirzel, Feltman & Co.	7,000	
A. M. Capens Sons	3,700	
Roldan & Van Sickle	3,100	
American Trading Co	2,900	
Silva, Bussenius & Co	2,200	
Dumarest Bros. & Co	1,800	
Otto Gerdau	1,200	
A. Santos & Co	1,000	
Smithers, Nordenholt & Co	800	
Mann & Emdon	700	
W. Loaiza & Co	800	53,100

SEPT. 12.—By the *Lampasas*=Mobile:

Manhattan Rubber Mfg Co	4,000	
A. T. Morse & Co	3,000	
A. N. Rotholz	2,000	9,000

SEPT. 13.—By the *Siberia*=Colombia:

G Amsinck & Co	1,800	
Banco de Exportasos	1,800	
H. B. Claflin & Co	1,000	4,600

SEPT. 13.—By the *Colderon*=Bahia:

Hirsch & Kaiser	65,000	
American Coommercial Co	25,000	90,000

SEPT. 16.—By the *Esperanza*=Mexico:

Thebaud Brothers	1,500	
E. Steiger & Co	1,100	
Harburger & Stack	1,300	
H. Marquardt & Co.	700	
E. N. Tibbals Co	500	5,100

SEPT. 16.—By the *Pretoria*=Hamburg:

General Rubber Co		20,000

SEPT. 18.—By the *Allianca*=Colon:

Piza, Nephews & Co	3,500	
Mann & Emdon	3,000	
E. B. Strout	1,500	8,000

SEPT. 18.—By the *Altai*=Costa R'ca:

A. A. Lindo & Co	1,000	
H. B. Claflin & Co	1,200	
Kunhardt & Co	500	2,700

SEPT. 18.—By the *Gera*=Colon:

G. Amsinck & Co	20 000	
Hirzel, Feltman & Co	18,500	
Eggers & Heinlein	500	39,000

SEPT. 19.—By the *Tennyson*=Bahia:

J. H. Rossbach & Bros	43,000	
Hirsch & Kaiser	16,000	
American Commercial Co	4,000	
Lawrence Johnson & Co	1,500	
A. D. Hitch & Co	1,500	66,000

SEPT. 19.—By the *Rio Grande*=Mobile:

A. T. Morse & Co	9,500	
European Option	20,000	29,500

SEPT. 21.—By the *Comus*=New Orleans:

Manhattan Rubber Mfg. Co		2,000

CENTRALS—Continued.

SEPT. 23.—By the *City of Washington*=Mexico:

H. Marquardt & Co	1,200	
American Trading Co	1 000	
Harburger & Stack	500	
E. Steiger & Co	500	
Fred Probst & Co	600	
European Option	22,500	26,300

SEPT. 23.—By the *Teutonic*=Liverpool:

George A. Alden & Co		5,500

SEPT. 25.—By the *Havana*=Colon:

Hirzel, Feltman & Co	21,200	
G. Amsinck & Co	16,000	
American Trading Co	3,600	
Mann & Emdon	2,500	
Roldan & Van Sickle	1,500	
Dumarest Bros. & Co	1,000	
A. M. Capen's Son	900	
Isaac Brandon & Bros	600	47,300

AFRICANS.

AUG. 28.—By the *Celtic*=Liverpool:

	POUNDS.	
A. T. Morse & Co	22,500	
George A. Alden & Co	2,500	25,000

AUG. 28.—By the *La Touraine*=Havre:

George A. Alden & Co	22,500	
General Rubber Co	11,000	39,500

AUG. 28.—By the *Oceanic*=Liverpool:

A. T. Morse & Co	17,000	
Poel & Arnold	14,000	
Wallace L. Gough	5,000	
Robinson & Tallman	3,500	33,500

AUG. 30.—By the *Bismarck*=Hamburg:

Poel & Arnold	4,500	
George A. Alden & Co	2,500	7,000

SEPT. 1.—By the *Peninsular*=Lisbon:

General Rubber Co		52,000

SEPT. 5.—By the *Cevic*=Liverpool:

Poel & Arnold		15,000

SEPT. 5.—By the *Vaderland*=Antwerp:

Poel & Arnold	90,000	
A. T. Morse & Co	75,000	
Rubber Trading Co	20,000	185,000

SEPT. 5.—By the *Blucher*=Hamburg:

Robinson & Tallman		10,000

SEPT. 7.—By the *Majestic*=Liverpool:

General Rubber Co	22,500	
Poel & Arnold	15,000	
A. T. Morse & Co	11,500	
George A. Alden & Co	7,000	
Earle Brothers	4,000	60,000

SEPT. 8.—By the *Patricia*=Hamburg:

A. T. Morse & Co	20,000	
George A. Alden & Co	15,000	
A. W. Brunn	5,000	
Poel & Arnold	3,500	43,500

SEPT. 11.—By the *La Bretagne*=Havre:

General Rubber Co		25,000

SEPT. 11.—By the *Cedric*=Liverpool:

A. T. Morse & Co	45,000	
Robinson & Tallman	2,000	47,000

SEPT. 11.—By the *Kroonland*=Antwerp:

George A. Alden & Co	230,000	
General Rubber Co	155 000	
Robinson & Tallman	35,000	420,000

SEPT. 11.—By the *Fricka*=Bordeaux:

A. T. Morse & Co		11,500

AFRICANS—Continued.

SEPT. 14.—By the *Baltic*=Liverpool:

Poel & Arnold		17,500

SEPT. 14.—By the *Carpathia*=Liverpool:

Geo. A. Alden & Co	45,000	
General Rubber Co	30,000	
A. T. Morse & Co.	11,500	
Windmuller & Reolker	2,500	89,000

SEPT. 16.—By the *Pretoria*=Hamburg:

General Rubber Co	48,000	
George A. Alden & Co	18,000	
Rubber Trading Co	2,000	68,000

SEPT. 8.—By the *Zeeland*=Antwerp:

Poel & Arnold	45,000	
A. T. Morse & Co	35,000	
George A. Alden & Co.	27,000	
Rubber Trading Co	22,000	
Amerman & Patterson	19,000	148,000

SEPT. 19.—By the *Mesaba*=London:

General Rubber Co		11,000

SEPT. 21.—By the *Graf Waldersee*=Hamburg:

General Rubber Co	140,000	
George A. Alden & Co	45,000	
Poel & Arnold	13,000	198,000

SEPT. 23.—By the *Teutonic*=Liverpool.

Poel & Arnold	17,500	
A. T. Morse & Co	4,500	
Wallace L. Gough	4,500	
George A. Alden & Co.	5,500	32,000

SEPT. 25.—By the *La Gascoyne*=Havre:

General Rubber Co	11,500	
A. T. Morse & Co	4,500	16,000

EAST INDIAN.

AUG. 28.—By the *St. Paul*=London:

Poel & Arnold	3,000	
Robinson & Taliman	1,500	4,500

SEPT. 2.—By the *New York*=London:

Poel & Arnold	6,500	
George A. Alden & Co	4,000	10,500

EAST INDIAN—Continued.

SEPT. 6.—By the *Montrose*=Singapore:

Pierre T. Betts	20,000	
Robert Branss & Co	17,500	
A. T. Morse & Co.	11,500	
Winter & Smillie	5,000	54,000

SEPT. 15.—By the *Nordpol*=Singapore:

Robert Branss & Co	15,000	
Heabler & Co	13,500	
Poel & Arnold	10,000	
Wallace L. Gough	7,000	
A. T. Morse & Co	6,500	
Windmuller & Reolker	3,000	55,000

SEPT. 16.—By the *Philadelphia*=London:

Robinson & Taliman	4,500	
Poel & Arnold	1,500	
Wallace L. Gough	1,000	7,000

SEPT. 19.—By the *Mesaba*=London:

General Rubber Co	13,500	
George A. Alden & Co	3,500	
Robinson & Taliman	1,000	18,000

GUTTA-JELUTONG.

SEPT. 6.—By the *Montrose*=Singapore:

Robert Branss & Co	155,000	
Heabler & Co	300,000	
Pierre T. Betts	150 000	
George A. Alden & Co.	245,000	
Robinson & Taliman	100,000	
Wallace L. Gough	125,000	
Winter & Smillie	100,000	1,175,000

SEPT. 15.—By the *Nordpol*=Singapore:

Heabler & Co.	200,000	
Pierre T. Betts	175,0 0	
Robert Branss & Co	135,000	
W. R. Russell & Co	100,000	
Poel & Arnold	95,000	
George A. Alden & Co	65,000	770,000

GUTTA-PERCHA AND BALATA.

	POUNDS
SEPT. 2.—By the *New York*=London:	
Wallace L. Gough	11,000

GUTTA-PERCHA—Continued.

SEPT. 5.—By the *Blucher*=Hamburg:

To Order		11,500

SEPT. 6.—By the *Montrose*=Singapore:

Winter & Smillie		30,000

SEPT. 15.—By the *Nordpol*=Singapore:

Poel & Arnold		3,500

SEPT. 21.—By the *Graf Waldersee*=Hamburg:

To Order		30,000

SEPT. 25.—By the *St. Paul*=London.

Wallace L. Gough		11,500

BALATA.

AUG 26.—By the *Celtric*=Liverpool:

Henry A. Gould Co	10,000	
Earle Brothers	2,000	12,000

AUG. 30.—By the *Korona*=Demerara:

Charles P. Shilstone	5,000	
Otto Heinze	4,500	9,500

SEPT. 13.—By the *Georgic*=Liverpool:

Windmuller & Roelker	13,000	
Earle Brothers	2,500	
Henry A. Gould Co	2,500	18,000

SEPT. 22.—By the *Fontabelle*=Demerara:

Charles P. Shilstone		9,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—AUGUST.

Imports:	POUNDS.	VALUE.
India-rubber	1,204,882	$1,591,034
Gutta-percha	42,361	12,723
Gutta-jelutong (Pontianak)	1,593,969	51,494
Total	2,841,218	$1,655,251
Exports:		
India-rubber	94,310	$87,864
Reclaimed rubber	323,986	38,702
Rubber Scrap Imported	1,809,313	$108,660

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1905	2,547,685	260,506	2,287,179
January-June	39,834,796	1,574,030	38,260,766
Seven months, 1905	42,382,481	1,834,536	40,547,945
Seven months, 1904	37,689,032	1,979,724	35,709,308
Seven months, 1903	35,539,720	1,751,513	33,788,207

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1905	4,841,088	2,413,040	2,428,048
January-June	32,678,688	18,032,680	14,646,008
Seven months, 1905	37,519,776	20,445,720	17,074,056
Seven months, 1904	34,992,048	19,453,286	15,538,762
Seven months, 1903	32,200 112	23,013,872	9,186,240

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1905	3,448,940	1,091,860	2,357,080
January-June	22,835,120	7,363,840	15,471,280
Seven months, 1905	26,284,060	8,455,700	17,828,360
Seven months, 1904	20,281,680	5,848,700	14,972,980
Seven months, 1903	21,163,560	7,211,160	13,952,400

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1905	99,660	29,040	70,620
January-June	854,700	118,580	736,120
Seven months, 1905	954,360	147,620	806,740
Seven months, 1904	901,120	73,480	827,640
Seven months, 1903	1,021,240	100,760	920,480

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1905	1,876,820	1,554,300	322,520
January-June	14,586,000	7,923,520	6,662,480
Seven months, 1905	16,462,820	9,477,820	6,985,000
Seven months, 1904	12,802,680	7,388,260	5,414,420
Seven months, 1903	9,651,840	5,300,020	4,351,720

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1905	272,580	5,060	267,520
January-June	1,570,360	16,280	1,554,080
Seven months, 1905	1,842,940	21,340	1,821,600
Seven months, 1904	1,757,140	14,740	1,742,400
Seven months, 1903	1,723,480	16,720	1,706,760

BELGIUM.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1905			
January-June	8,849,086	6,623,102	2,225,984
Seven months, 1905			
Seven months, 1904	6,031,542	5,154,098	877,444
Seven months, 1903	5,379,251	3,908,302	1,470,949

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce. † Special Commerce.

BUYERS' DIRECTORY OF THE RUBBER TRADE.

CLASSIFIED LIST OF MANUFACTURERS AND DEALERS IN INDIA-RUBBER GOODS AND RUBBER MANUFACTURERS' SUPPLIES.

INDEX TO ADVERTISERS.

NAME.	PAGE.
Acker Process Co	I, XXVI
Adamson, A	XXXI
Afton Machine Co	XXXII
Akron Rubber Works	XIX
Alden & Co., Geo. A	XIII, XXIV
Alkali Rubber Co	XXIII
American Hard Rubber Co	XV
American Process Co	XXXV
American Rubber Reclaiming Co	I
American Tool & Machine Co	XXIX
Appleton & Son, F. H	XIII
Atlas Chemical Co	XVI
Bailey & Co., C. J	XIV
Barrett Mfg. Co	XXVII
Battelle & Renwick	XXVII
Bers & Co	XXV
Birkenstein & Sons, S	XXV
Birmingham Iron Foundry	XXXIV
Bloomingdale Soft Rubber Wks	XII
Boomer & Boschert Press Co	XXXV
Boston Belting Co	III
Boston Woven Hose & Rubber Co	V
Bowers Rubber Co	IV
Broomfield & Co., Philip	XXIV
Brunn, A. W	XXIV
Cabot, Samuel	I
Canadian Rubber Co. of Montreal	II
Cantor, Joseph	XXVII
Chicago Rubber Wks	
Clapp Rubber Co., E. H	XLIX
Clark, Edred W	XXXI
Cleveland Rubber Wks	XX
Coleman Co, W. C	I, XXV
Combination Rubber Mfg. Co	VI
Continental Caoutchouc & Gutta Percha Co	XIII
Cravenette Co., Ltd	I
Cummings & Sons, Wm. H	XXV
Danversport Rubber Co	XXIII
Davidson Rubber Co	XV
Davol Rubber Co	XIV
Devine, Joseph P	XXXVI
Dixon Crucible Co., Jos	XXXI
Egestorff's (Georg) Salzwerke	XXVII
Empire Rubber Mfg. Co	IV
Eureka Fire Hose Co	IV
Eureka Rubber Mfg. Co	XI
Farrel Foundry & Machine Co	XXXIII
Faultless Rubber Co	XIV
Gabriel & Schall	XXVII
Goodrich Co., B. F	XIX
Granby Rubber Co	LI
Gutta Percha & Rubber Mfg. Co	LII
Gutta Percha & Rubber Mfg. Co., Toronto	LI
Hagemeyer & Brunn	XXIV
Hardman Rubber Co	XIV
Harrison, O. H	LI
Heyl-Dia, George, E	XL
Hidalgo Plantation & Commercial Co	XXXVIII
Hirsch & Kaiser, Inc	XXIV
Hodgman Rubber Co	VI
Hofeller & Co., Theodore	XXV
Hoggson & Pettis Mfg. Co	XXXV
Holmes Bros	XXXV
Home Rubber Co	IX
Hood Rubber Co	LII
India-Rubber Pub. Co	XLI
Jenkins Bros	VIII
"Journal d'Agriculture Tropicale"	LI
Kimball, Herbert S	XLI
Kokomo Rubber Co	VIII
La Crosse Rubber Mills Co	XXII
Lake Shore Rubber Co	VIII
Lane & Co., J. H	XXXVI
Le Caoutchouc & La Gutta-Percha	XLI
Leslie & Co., A. W	XXV
Liverpool Rubber Co., Ltd	I
McGrory, Philip	XXV
Manhattan Rubber Mfg. Co	XII
Manufactured Rubber Co	XXIV
Mason Regulator Co	XXXVI
Massachusetts Chemical Co	XXVI
Mattson Rubber Co	XVI
Mechanical Fabric Co	VIII
Mechanical Rubber Co	XX
Mexican Mutual Planters Co	XXXVIII
Meyer Rubber Co	XVII
Middlesex Last Co	XLI
Mitzel Rubber Co	XVI
Müller & Co., F. R	XXIV
Neale & Co	XXIV
New England Butt Co	XXXII
New Jersey Car Spring & Rubber Co	X
New Jersey Rubber Co	XLI
New Jersey Zinc Co	XXVI
New York Belting & Packing Co	XX
New York Rubber Co	VIII
North British Rubber Co., Ltd	XXXI
Peerless Rubber Mfg. Co	XVIII
Pequanoc Rubber Co	XXIII
Peru-Pará Rubber Co	XLII
Philadelphia Rubber Wks	XXVIII
Picher Lead Co	XXI
Plymouth Rubber Co	XXIX
Pirelli & Co	XXIX
Pure Gum Specialty Co	XVI
Republic Rubber Co	XVI
Revere Rubber Co	L
Rindskopf, H. P	XXV
Royle & Sons, John	XLII
Rubberset Brush Co	XVI
Rubber Trading Co	XXI
S. & L. Rubber Co	XXIV
San Giacomo Sons	XXV
Scheel, Wm. H	XXVI
Schnurmann, J	XXV
Schrader's Son, Inc., A	X
Seamless Rubber Co	XV
Sharples, Stephen P	XL
Sheip Mfg. Co., Henry H	XXIX
South American Commercial Agency	XXIV
Spealght, Geo. W	I
Springfield Tire & Rubber Co	VIII
Stamford Rubber Supply Co	XXVII
Stanley, G. I., Electric Mfg. Co.	X-XXIX-XL
Stokes Rubber Co., Jos	XV
Sturtevant Co., B. F	XXXV
Taintor Mfg. Co., H. F	VII
Textile-Finishing Machinery Co	XXXV
Thropp, William R	XXXI
Toch Bros	XXVII
Trenton Rubber Mfg. Co	IX
"Tropical Agriculturist"	XLI
Turner, Vaughn & Taylor Co	XI
Tyer Rubber Co	LII
Typke & King	XXVII
United States Rubber Co	XVII
U. S. Rubber Reclaiming Wks	XXX
U. S. Waste Rubber Co	XXV
Voorhees Rubber Mfg. Co	V
Wanted and For Sale	XXXIX
Weld Mfg. Co	I
Wellman Sole Cutting Machine Co	XXXVI
White, T. & S. C., Co	XXVII
Williams & Bros., J. P	XLI
Wing Mfg. Co., L. J	XXXVI
Wirt & Knox Mfg. Co	XIII
Wolpert, M. J	XXI
Woodman, Ph.D., Durand	XXVII
Yerdon, William	XXIX

MECHANICAL RUBBER GOODS

Belting.
Diaphragms.
Gaskets.
Hose (Fire, Garden, Steam).
Mats and Matting.
Mould Work.
Packing.
Valves.
Washers.

Mechanical Rubber Goods—General.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Bowers Rubber Co., San Francisco, Cal.
Canadian Rubber Co. of Montreal.
Chicago Rubber Wks., Chicago.
Cleveland Rubber Co., Cleveland, O.
Combination Rubber Mfg. Co., Bloomfield, N. J.
Continental Caoutchouc & Guttapercha Co., Hanover, Germany.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Co., New York.
Eureka Rubber Mfg. Co. of Trenton.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Gutta Percha & Rubber Mfg. Co., Toronto.
Home Rubber Co., Trenton, N. J.
Lake Shore Rubber Co., Erie, Pa.
Liverpool Rubber Co., Liverpool, Eng.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
North British Rubber Co., Ltd., Edinburgh.
Peerless Rubber Mfg. Co., New York.
Pirelli & Co., Milan, Italy.
Republic Rubber Co., Youngstown, Ohio.

MECHANICAL GOODS.

Revere Rubber Co., Boston.
Springfield Tire & Rubber Co, Springfield, Ohio.
Jos. Stokes Rubber Co., Trenton, N. J.
Trenton Rubber Mfg. Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.

Air Brake Hose.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Combination Rubber Mfg. Co., Bloomfield, N. J.
Eureka Rubber Mfg. Co. of Trenton.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, Ohio
Revere Rubber Co., Boston-New York
Voorhees Rubber Mfg. Co., Jersey City

Belting (Canvas).

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Eureka Fire Hose Co., New York.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston-New York.

Billiard Cushions.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Combination Rubber Mfg. Co., Bloomfield, N. J.
B. F. Goodrich Co., Akron, O.
Manhattan Rubber Mfg. Co., New York
New York Belting & Packing Co., Ltd
New York Rubber Co., New York.
Revere Rubber Co., Boston-New York.

Blankets—Printers'.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Hodgman Rubber Co., New York.
Liverpool Rubber Co., Liverpool, Eng.
N. J. Car Spring & Rubber Co., Jersey City, N. J.

MECHANICAL GOODS.

Blankets—Printers'.—Continued.

Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Brushes.

C. J. Bailey & Co., Boston.

Buffers.

Boston Belting Co., Boston-New York.
Canadian Rubber Co. of Montreal.
Liverpool Rubber Co., Ltd., Liverpool

"Bull Dog" Packing.

Boston Woven Hose & Rubber Co.

Card Cloths.

Canadian Rubber Co. of Montreal.
Mechanical Fabric Co., Providence, R. I

Carriage Mats.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.
Voorhees Rubber Mfg. Co., Jersey City

Cord (Pure Rubber).

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
Empire Rubber Mfg. Co., Trenton, N. J
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

MECHANICAL GOODS.

Deckle Straps.

Boston Belting Co., Boston.
Liverpool Rubber Co., Liverpool, Eng.
Mechanical Rubber Co., Chicago.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.

"Dods" Packing.

Bowers Rubber Co., San Francisco, Cal.

Door Springs.

Hodgman Rubber Co., New York.

Dredging Sleeves.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City.
Republic Rubber Co., Youngstown, O.

Force Cups.

Hodgman Rubber Co., New York.

"Forsyth" Combination Packing.

Boston Belting Co., Boston-New York.

Fruit Jar Rings.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co. of Trenton.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, Ohio.
New York Belting & Packing Co., N. Y.

Fuller Balls.

B. F. Goodrich Co., Akron, O.
N. J. Car Spring & Rubber Co. Jersey City.

RUBBER BUYERS' DIRECTORY—CONTINUED.

MECHANICAL GOODS.

Fuller Balls—Continued.

Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.

Gage Glass Washers.

Boston Belting Co., Boston, Mass.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Home Rubber Co., Trenton, N. J.
Liverpool Rubber Co., Liverpool, Eng.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago, Ill.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Revere Rubber Co., Boston, Mass.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City, N. J.

Gas-Bags (Rubber).

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Liverpool Rubber Co., Liverpool, Eng.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.
Tyer Rubber Co., Andover, Mass.
Voorhees Rubber Mfg. Co., Jersey City.

Gasket Tubing.

Canadian Rubber Co. of Montreal.
Jenkins Bros., New York.

Hat Bags.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.

Horse Shoe Pads.

Canadian Rubber Co. of Montreal.
Home Rubber Co., Trenton, N. J.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City

Hose—Armored.

Hose—Wire Wound.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co of Montreal.
B. F. Goodrich Co., Akron, O.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose Couplings and Fittings.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.

Hose Linings.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.

Hose—Protected.

Boston Belting Co., Boston-New York.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose Racks and Reels.

Wirt & Knox Mfg. Co., Philadelphia.

Hose—Rubber Lined.

COTTON AND LINEN.

Boston Belting Co., Boston-New York
Boston Woven Hose & Rubber Co.

MECHANICAL GOODS.

Hose—Rubber Lined.—Continued.

COTTON AND LINEN.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Co., New York.
Eureka Rubber Mfg. Co. of Trenton.
Fabric Fire Hose Co., New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Gutta Percha and Rubber Mfg. Co. of Toronto.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.

Hose—Submarine.

Boston Belting Co., Boston-New York.
B. F. Goodrich Co., Akron, O.
Republic Rubber Co., Youngstown, O.

"Jenkins '96" Packing.

Jenkins Bros., New York.

Lawn Sprinklers.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.

Mallets (Rubber).

Boston Belting Co., Boston-New York.
B. F. Goodrich Co., Akron, O.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston New York.

Mould Work.

[*See Mechanical Rubber Goods.*]

Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.
Mattson Rubber Co., New York.
Mitzel Rubber Co., Akron, O.
National India Rubber Co., Bristol, R. I.
Plymouth Rubber Co., Stoughton, Mass
Tyer Rubber Co., Andover, Mass.

"Nubian" Packing.

Voorhees Rubber Mfg. Co., Jersey City.

Oil Well Supplies.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Lake Shore Rubber Co., Erie, Pa.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-Pittsburgh.
Voorhees Rubber Mfg. Co., Jersey City.

Paper Machine Rollers.

Boston Belting Co., Boston-New York
B. F. Goodrich Co., Akron, O.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Peerless Rubber Mfg. Co., New York.
Voorhees Rubber Mfg. Co., Jersey City.

"Perfection" Belting.

Boston Woven Hose & Rubber Co.

Plumbers' Supplies.

Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Republic Rubber Co., Youngstown, O.

Pump Valves.

[*See Mechanical Rubber Goods.*]

Jenkins Bros., New York.

"Rainbow" Packing.

Peerless Rubber Mfg. Co., New York.

MECHANICAL GOODS.

Rollers—Rubber Covered.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co. of Trenton.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston New York.

Sewing Machine Rubbers.

B. F. Goodrich Co., Akron, O.

Springs—Rubber.

Boston Belting Co., Boston-New York.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Liverpool Rubber Co., Liverpool, Eng.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, Ohio.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Stair Treads.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Home Rubber Co., Trenton, N. J.
Liverpool Rubber Co., Liverpool, Eng.
Manhattan Rubber Mfg. Co., New York
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Thread.

Mechanical Fabric Co., Providence, R. I.
Revere Rubber Co., Boston.

Tiling.

Canadian Rubber Co. of Montreal, Ltd.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, Ohio.
Voorhees Rubber Mfg. Co., Jersey City.

Tires.

AUTOMOBILE, BICYCLE, AND CARRIAGE.

Canadian Rubber Co. of Montreal, Ltd.
Continental Caoutchouc & Guttapercha Co., Hanover.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., Toronto.
Kokomo Rubber Co., Kokomo, Ind.
Lake Shore Rubber Co., Erie, Pa.
Liverpool Rubber Co., Liverpool, Eng
North British Rubber Co., Ltd., Edinburgh.
Plymouth Rubber Co., Stoughton, Mass
Republic Rubber Co., Youngstown, O.

AUTOMOBILE AND CARRIAGE.

Boston Belting Co., Boston-New York.
Eureka Rubber Mfg. Co., Trenton, N. J.
Michelin Tire American Agency, N. Y.
Revere Rubber Co., Boston-New York.
Springfield Tire & Rubber Co., Springfield, Ohio.

Truck Bands.

Boston Belting Co., Boston.
Cleveland Rubber Co., Cleveland, O.

MECHANICAL GOODS.

Truck Bands—Continued.

Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Voorhees Rubber Mfg. Co., Jersey City.

Tubing.

[*See Mechanical Rubber Goods.*]

American Hard Rubber Co., New York.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Hardman Rubber Co., Belleville, N. J.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

"Usudurian" Packing.

Revere Rubber Co., Boston-New York.

Valve Balls.

Boston Belting Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Manhattan Rubber Mfg. Co., New York
Mechanical Rubber Co., Chicago.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.

Valve Discs.

American Hard Rubber Co., New York.
Boston Belting Co., Boston-New York.
B. F. Goodrich Co., Akron, O.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.

Valves.

[*See Mechanical Rubber Goods.*]

Jenkins Bros., New York-Chicago.
Plymouth Rubber Co., Stoughton, Mass.

Wringer Rolls.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Republic Rubber Co., Youngstown, O.

DRUGGISTS' AND STATIONERS' SUNDRIES

Atomizers.

Bandages.

Bulbs.

Syringes.

Water Bottles.

Druggists' Sundries—General.

American Hard Rubber Co., New York.
C. J. Bailey & Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Hodgman Rubber Co., New York.
Mitzel Rubber Co., Akron, O.
North British Rubber Co., Ltd., Edinburgh.
Pirelli & Co., Milan, Italy.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass

Balls, Dolls and Toys.

Canadian Rubber Co. of Montreal.
Continental Caoutchouc & Guttapercha Co.
B. F. Goodrich Co., Akron, O.
New York Rubber Co., New York

RUBBER BUYERS' DIRECTORY—CONTINUED.

DRUGGISTS' SUNDRIES.

Combs.

American Hard Rubber Co., New York

Elastic Bands.

Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston
Tyer Rubber Co., Andover, Mass.

Erasive Rubbers.

Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Mattson Rubber Co., New York.

Finger Cots.

Faultless Rubber Mfg. Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barberton, O.

Gloves.

Canadian Rubber Co. of Montreal.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barberton, O.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Davol Rubber Co., Providence, R. I.
Hardman Rubber Co., Belleville, N. J.
Stokes Rubber Co., Joseph, Trenton, N. J.
Tyer Rubber Co., Andover, Mass.

Hospital Sheetings.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Hodgman Rubber Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

Hot Water Bottles.

[See Water Bottles.]

Ice Bags and Ice Caps.

Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Pure Gum Specialty Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

Life Preservers.

Hodgman Rubber Co., New York.

Nipples.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barberton, O
Tyer Rubber Co., Andover, Mass.

Sponges (Rubber).

Faultless Rubber Co., Ashland, Ohio.
B. F. Goodrich Co., Akron, O.

Stationers' Sundries.

American Hard Rubber Co., New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Hodgman Rubber Co., New York-Boston.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass

Stopples (Rubber).

Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
Hodgman Rubber Co., New York.
Manhattan Rubber Mfg. Co., New York.
New York Belting & Packing Co., N. Y.
Tyer Rubber Co., Andover, Mass.

DRUGGISTS' SUNDRIES.

Throat Bags.

Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Tyer Rubber Co., Andover, Mass.

Tobacco Pouches.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

MACKINTOSHED AND SURFACE GOODS

Air Goods (Rubber).

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
New York Rubber Co., New York.
National India Rubber Co., Providence.
Tyer Rubber Co., Andover, Mass.

Air Mattresses.

Canadian Rubber Co. of Montreal.
Mechanical Fabric Co., Providence, R. I.

Barbers' Bibs.

Davol Rubber Co., Providence, R. I.
Tyer Rubber Co., Andover, Mass.

Bathing Caps.

Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.

Bellows Cloths.

Boston Rubber Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.

Calendering.

La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.

Carriage Ducks and Drills.

Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co. of Trenton.
Gutta Percha & Rubber Mfg. Co., Toronto.

Clothing.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Granby Rubber Co., Granby, Quebec.
Gutta Percha & Rubber Mfg. Co. of Toronto.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.
North British Rubber Co., Ltd., Edinburgh.
Pirelli & Co., Milan, Italy.

Cravenette.

Cravenette Co., Ltd.

Diving Dresses.

Hodgman Rubber Co., New York.

Dress Shields.

Hodgman Rubber Co., New York.
Mattson Rubber Co., New York.

Horse Covers.

Hodgman Rubber Co., New York.

Leggings.

Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.

Mackintoshes.

[See Clothing.]

Proofing.

Canadian Rubber Co. of Montreal.
La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.

MACKINTOSHED GOODS.

Rain Coats.

Cravenette Co., Ltd.

Rubber Coated Cloths.

Mechanical Fabric Co., Providence, R. I.

RUBBER FOOTWEAR

Boots and Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
Canadian Rubber Co. of Montreal
L. Candee & Co., New Haven, Ct.
Granby Rubber Co., Granby, Quebec.
Gutta Percha & Rubber Mfg Co. of Toronto.
Hood Rubber Co., Boston.
Liverpool Rubber Co., Liverpool, Eng.
Lycoming Rubber Co., Williamsport, Pa.
Meyer Rubber Co., New York.
National India Rubber Co., Boston.
North British Rubber Co., Ltd., Edinburgh.
United States Rubber Co., New York.
Wales-Goodyear Rubber Co., Boston.
Woonsocket Rubber Co., Providence.

Heels and Soles.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Continental Caoutchouc & Guttapercha Co., Hanover.
Plymouth Rubber Co., Stoughton, Mass.
Springfield Tire & Rubber Co., Springfield, Ohio.

Tennis Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co. Boston.
Granby Rubber Co., Granby, Quebec.
Liverpool Rubber Co., Liverpool, Eng.
National India Rubber Co., Providence
United States Rubber Co., New York.

Tennis Soles.

Canadian Rubber Co. of Montreal.
Jos. Stokes Rubber Co., Trenton, N. J.

Wading Pants.

Canadian Rubber Co. of Montreal.
Hodgman Rubber Co., New York.

SPORTING GOODS

Foot Balls.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, Ohio.
B. F Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.

Golf Balls.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.

Submarine Outfits.

Hodgman Rubber Co., New York.

Sporting Goods.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Striking Bags.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barberton, O.

DENTAL AND STAMP RUBBER

Dental Gum.

American Hard Rubber Co., New York.
Cleveland Rubber Co., Cleveland, O.
Tyer Rubber Co., Andover, Mass.

DENTAL AND STAMP RUBBER.

Rubber Dam.

Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Stamp Gum.

Mattson Rubber Co., New York.
Mechanical Rubber Co., Chicago, Ill.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

ELECTRICAL

Electrical Supplies.

American Hard Rubber Co., New York.
Lake Shore Rubber Co., Erie, Pa.
Joseph Stokes Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Tyer Rubber Co., Andover, Mass.

Friction Tape.

Boston Belting Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Rubber Co., Akron, O.
Massachusetts Chemical Co., Boston.
Mechanical Rubber Co., Chicago.
Home Rubber Co., Trenton, N. J.
Revere Rubber Co., Boston-New York.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Joseph Stokes Rubber Co., Trenton, N. J.

Insulating Compounds.

Canadian Rubber Co. of Montreal.
Gutta-Percha & Rubber Mfg. Co., Toronto.
Massachusetts Chemical Co., Boston.

Insulated Wire and Cables.

National India Rubber Co., Providence.

Splicing Compound.

Home Rubber Co., Trenton, N. J.

MISCELLANEOUS

Architect and Engineer.

Herbert S. Kimball, Boston.

Cement (Rubber).

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y

Chemical Analyses.

Durand Woodman, Ph D., New York.
H. L. Terry, Manchester, England.

Chemists.

Stephen P. Sharples, Boston, Mass.
Durand Woodman, Ph. D., New York.

Electric Apparatus.

Stanley-G. I. Electric Mfg. Co., Pittsfield, Mass.

Laboratory—Tests, Analyses.

G. E. Heyl-Dia, New York.

Rubber Lands For Sale.

O. H. Harrison, San Francisco.

Rubber Planting.

Hidalgo Plantation and Commercial Co., San Francisco.
Mexican Mutual Rubber Co., Chicago.

Rubber Tree Seeds.

J. P. William & Bros., Heneratgoda, Ceylon.

MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER MACHINERY

Acid Tanks.
Birmingham Iron Foundry, Derby, Ct.

Band Cutting Machine.
A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Ct.

Belt Folding Machines.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Belt Slitters.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Belt Stretchers.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
Hoggson & Pettis Mfg. Co., New Haven.

Blowers.
B. F. Sturtevant Co., Boston.
L. J. Wing Mfg. Co., New York.

Boilers.
William R. Thropp, Trenton, N. J.

Braiders.
New England Butt Co., Providence, R. I.

Buckles.
The Weld Mfg. Co., Boston.

Cabling Machinery.
Alton Machine Co., New York.

Calenders.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
Textile-Finishing Machinery Co., Providence, R. I.

Castings.
A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach Co., Ansonia, Ct.

Chucks (Lathe).
Hoggson & Pettis Mfg. Co., New Haven.

Churns.
American Tool & Machine Co., Boston.

Cloth Dryers.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Clutches.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Crackers.
Birmingham Iron Foundry, Derby, Ct.

Devulcanizers.
Birmingham Iron Foundry, Derby, Ct.
Edred W. Clark, Hartford, Ct.
William R. Thropp, Trenton, N. J.

Dies.
Hoggson & Pettis Mfg. Co., New Haven.
Holmes Bros., Chicago, Ill.

Doubling Machines.
American Tool & Machine Co., Boston.

Drying Apparatus.
American Process Co., New York.
B. F. Sturtevant Co., Boston.

Drying Machines.
Alton Machine Co., New York.
Joseph P. Devine, Buffalo, N. Y.
Birmingham Iron Foundry, Derby, Ct.
Textile-Finishing Machinery Co., Providence, R. I.

Dynamos.
B. F. Sturtevant Co., Boston.

Embossing Calenders.
Textile-Finishing Machinery Co., Providence, R. I.

Engines.
B. F. Sturtevant Co., Boston.
William R. Thropp, Trenton, N. J.
L. J. Wing Mfg. Co., New York.

Engraving Roll.
Hoggson & Pettis Mfg. Co., New Haven.

Exhaust Fans and Heads.
B. F. Sturtevant Co., Boston.

Factory Construction.
Herbert S. Kimball, Boston.

Fans (Electric).
B. F. Sturtevant Co., Boston.

Fans (Exhaust and Ventilating).
B. F. Sturtevant Co., Boston.

Forges.
B. F. Sturtevant Co., Boston.

Fuel Economizers.
B. F. Sturtevant Co., Boston.

Gas Exhausters.
B. F. Sturtevant Co., Boston.

Gearing.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

RUBBER MACHINERY.

Generating Sets.
B. F. Sturtevant Co., Boston.

Grinders.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
William R. Thropp, Trenton, N. J.

Hangers.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Heating Apparatus.
B. F. Sturtevant Co., Boston.

Hose Covering Machines.
New England Butt Co., Providence, R. I.

Hose Making Machines.
Birmingham Iron Foundry, Derby, Ct.

Hose Wrapping Machines.
A. Adamson, Akron, Ohio.
Birmingham Iron Foundry, Derby, Ct.

Hydraulic Accumulators.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Hydraulic Machinery.
Alton Machine Co., New York.

Insulating Machinery.
Alton Machine Co., New York.

Iron Castings.
Alton Machine Co., New York.

Lasts (Rubber Shoe).
Middlesex Last Co., Boston.

Lathes—Hard Rubber.
A. Adamson, Akron, Ohio.

Lathes—Jar Ring.
A. Adamson, Akron, Ohio.
Birmingham Iron Foundry, Derby, Ct.
William R. Thropp, Trenton, N. J.

Machinists' Tools.
Hoggson & Pettis Mfg. Co., New Haven.

Mechanical Draft.
B. F. Sturtevant Co., Boston.

Mixers.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
William R. Thropp, Trenton, N. J.

Motors (Electric).
B. F. Sturtevant Co., Boston.

Moulds.
A. Adamson, Akron, Ohio.
Birmingham Iron Foundry, Derby, Ct.
Hoggson & Pettis Mfg. Co., New Haven.
Holmes Bros., Chicago, Ill.

Pillow Blocks.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Post Hangers.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Presses (for Rubber Work.)
A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Ct.
Boomer & Boschert Press Co., Syracuse, N. Y.
Edred W. Clark, Hartford, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
William R. Thropp, Trenton, N. J.

Pumps.
Birmingham Iron Foundry, Derby, Ct.
Boomer & Boschert Press Co., Syracuse, N. Y.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Racks for Boot and Shoe Cars.
Hoggson & Pettis Mfg. Co., New Haven.

Reducing Valves.
Mason Regulator Co., Boston.

Rollers.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Rollers (Hand).
Hoggson & Pettis Mfg. Co., New Haven.
Holmes Bros., Chicago, Ill.

Rubber Covering Machines.
New England Butt Co., Providence, R. I.

Rubber Machinery.
Alton Machine Co., New York.

Separators.
Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Separators for Reclaimed Rubber.
American Process Co., New York.

Shafting.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Special Rubber Machinery.
Wellman Sole Cutting Machine Co., Medford, Mass.

Spreaders.
American Tool & Machine Co., Boston.
Birmingham Iron Foundry, Derby, Ct.

Spreading Machines.
New England Butt Co., Providence, R. I.

RUBBER MACHINERY.

Steam Traps and Specialties.
Jenkins Bros., New York.
Mason Regulator Co., Boston.
B. F. Sturtevant Co. Boston.

Steel Stamps.
Hoggson & Pettis Mfg. Co., New Haven.

Stitchers (Hand).
Hoggson & Pettis Mfg. Co., New Haven.
Holmes Bros., Chicago, Ill.

Strip Covering Machines.
New England Butt Co., Providence, R. I.

Strip Cutters.
New England Butt Co., Providence, R. I.

Thermometers.
Hohmann & Maurer Mfg. Co., Rochester, N. Y.

Tubing Machines.
A. Adamson, Akron, O.
Edred W. Clark, Hartford, Ct.
Holmes Bros., Chicago, Ill.
John Royle & Sons, Paterson, N. J.

Vacuum Drying Chambers.
Joseph P. Devine, Buffalo, N. Y.

Varnishing Machines.
Birmingham Iron Foundry, Derby, Ct.

Ventilating Fans.
B. F. Sturtevant Co., Boston.

Vulcanizers.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
William R. Thropp, Trenton, N. J.

Washers.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
William R. Thropp, Trenton, N. J.
Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Wire Insulating Machines.
New England Butt Co., Providence, R. I.

Wrapping Machines.
A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Ct.

Wire Rope Machinery.
Alton Machine Co., New York.

SECOND-HAND MACHINERY.

W. C. Coleman Co., Rochelle Park, N. J.
Philip McGrory, Trenton, N. J.

FACTORY SUPPLIES

Acid (Carbolic).
Barrett Mfg. Co., Philadelphia.

Antimony, Sulphurets of.
GOLDEN.
Actien-Ges. Georg Egestorff's Salzwerke, Linden, Germany.
Atlas Chemical Co., Newtonville, Mass.
GOLDEN AND CRIMSON.
Joseph Cantor, New York.
Wm. H. Scheel, New York.
Stamford (Conn.) Rubber Supply Co.
Typke & King, London, England.

Balata.
George A. Alden & Co., Boston.

Benzol.
Barrett Mfg. Co., Philadelphia.
Samuel Cabot, Boston.

Black Hypo.
Joseph Cantor, New York.
William H. Scheel, New York.
Typke & King, London, England.

Boxes (Wood).
Henry H. Sheip & Co., Philadelphia.

Brass Fittings.
A. Schrader's Son, Inc., New York.

Carbon Bisulphide.
George W. Speaight, New York.

Caustic Soda.
Acker Process Co., Niagara Falls, N. Y.

Chemicals.
Acker Process Co., Niagara Falls, N. Y.
Empire Palm Oil Co., Boston.
George W. Speiaght, New York.

Colors.
Joseph Cantor, New York.
William H. Scheel, New York.
Toch Bros., New York.
Typke & King, London, England.

Crude Rubber.
George A. Alden & Co., Boston.

FACTORY SUPPLIES.

Crude Rubber.—Continued.
A. W. Brunn, New York.
Hagemeyer & Brunn, New York.
Hirsch & Kaiser, Inc., New York.
F. R. Müller & Co., New York.
Neale & Co., New York.
Rubber Trading Co., New York-Bo

Drills.
J. H. Lane & Co., New York.

Duck (Cotton).
J. H. Lane & Co., New York.

Gilsonite.
William H. Scheel, New York.

Graphite Grease.
Jos. Dixon Crucible Co., Jersey City.

Gutta-Percha.
George A. Alden & Co., Boston.
Rubber Trading Co., New York-Boston

Hose Bands, Straps & Menders.
Boston Woven Hose & Rubber Co.
William Yerdon, Fort Plain, N. Y.

Hose Pipes, Nozzles & Couplings.
Boston Woven Hose & Rubber Co.
Eureka Fire Hose Co., New York.
Revere Rubber Co., Boston.
A. Schrader's Son, Inc., New York.

Hydro-Carbon Products.
Geo. A. Alden & Co., Boston.
William H. Scheel, New York.

Infusorial Earth.
Stamford (Conn.) Rubber Supply Co.

Lampblack.
Samuel Cabot, Boston.

Lawn-Hose Supporters.
C. J. Bailey & Co., Boston.

Lead—Blue.
Picher Lead Co., Chicago, Ill.

Lead—Sublimed White.
Picher Lead Co., Chicago, Ill.

Naphtha.
Barrett Mfg. Co., Philadelphia.

Paris White and Whiting.
H. F. Taintor Mfg. Co., New York.

Reclaimed Rubber.
Alkali Rubber Co., Akron, Ohio.
American Reclaimed Rubber Co., Rochelle Park, N. J.
Bloomingdale (N. J.) Soft Rubber Co.
E. H. Clapp Rubber Co., Boston, Mass.
Danversport Rubber Co., Boston.
Manufactured Rubber Co.
New Jersey Rubber Co., Lambertville, N. J.
Pequanoc Rubber Co., Butler, N. J.
Philadelphia Rubber Wks., Philadelphia.
Jos. Stokes Rubber Co., Trenton, N. J.
S. & L. Rubber Co., Chester, Pa.
U. S. Rubber Reclaiming Wks., N. Y.
AGENTS AND DEALERS.
Philip McGrory, Trenton, N. J.
H. P. Moorhouse, Paris, France.
Rubber Trading Co., New York-Boston.

Rubber Waste.
J. H. Brereton & Co., Liverpool, Eng.
Wm. H. Cummings & Sons, New York.
W. C. Coleman Co., Rochelle Park, N. J.
United States Waste Rubber Co., Brockton, Mass.

Scrap Rubber.
Bers & Co., Philadelphia.
J. H. Brereton & Co., Liverpool, Eng.
P. Broomfield & Co., Boston.
W. C. Coleman Co., Rochelle Park, N. J.
Wm. H. Cummings & Sons, New York.
Theodore Hofeller & Co., Buffalo, N. Y.
A. W. Leslie & Co., Ltd., London, Eng.
Philip McGrory, Trenton, N. J.
Henry P. Rindskopf, Brooklyn, N. Y.
San Giacomo Sons, Newark, N. J.
J. Schnurmann, London.
M. J. Wolpert, Odessa, Russia.

Substitute.
Joseph Cantor, New York.
Massachusetts Chemical Co., Boston.
Wm. H. Scheel, New York.
Stamford (Conn.) Rubber Supply Co.
Typke & King, London, England.

Sulphur.
Battelle & Renwick, New York.
T. & S. C. White Co., New York.

Sulphur Chloride.
Acker Process Co., Niagara Falls, N. Y.
William H. Scheel, New York.
George W. Speaight, New York.
Stamford (Conn.) Rubber Supply Co.

Tire Fabrics.
J. H. Lane & Co., New York.

Tire Valves.
A. Schrader's Son, Inc., New York.